

Maryland STATE MEDICAL JOURNAL

Medical and Chirurgical Faculty of the State of Maryland

VOLUME 6

June, 1957

NUMBER 6

EDITORIAL

NO RULE SUFFICES

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In the practice of medicine, as in most vocations, rules of thumb are constantly sought to reduce the need for thinking and clichés are freely used to give the impression of learning. Both of these practices contribute but little to the understanding of the ill unless they are the result of careful study and experience. Again, one should not set as primary goals rules of thumb and convenient phrases but rather let them evolve from his broad understanding of disease.

Too often classifications and definitions are posed as basic knowledge when actually they are notions which nature ignores. Classifications and definitions are important to science but, as Edmund Burke suggests, we should extend "... our ideas to take in all that nature comprehends according to her manner of combining."

In recent years, frequent use has given such terms as carcinoma *in situ*, basal cell hyperactivity, and invasive carcinoma an axiomatic ring. They are used to indicate the advisability of watchful waiting, conservative treatment, or radical treatment as if appearances necessarily indicate future behavior or as if one actually knows that certain malignant tumors have not yet pierced a basement membrane. These are useful terms, but a choice of term and consequently of treatment could be changed by another look, another section, or another biopsy.

The task of diagnosing and treating malignancy would be so much easier if sharp lines separated benign from malignant lesions. Unfortunately one merges into the other, forming a group of lesions which are not plainly innocent or obviously vicious. One often hears the demanding question, "Is it malignant or is it benign?" knowing that the answer might greatly affect the extent of the treatment and in turn the appearance or functional attributes of the patient. If the lesion is one not clearly benign or malignant, patience, consultation, repeat examination, and further study of biopsy material may result in a conclusion nearer the truth. This approach is rather to be chosen than the approach which has prejudicially concluded that the only way to cure cancer is to remove it before its presence has been unquestionably established. The fact that an organ in question appears to be of no use to the patient does not seem to be justification for an overly hasty attempt at treatment.

When one terms a tumor "malignant" it is the clinical behavior of the lesion that first comes to mind and not the histologic features. As correlative information accumulates,

one becomes enabled to anticipate the clinical behavior of the lesion on the basis of a microscopic view. In practice, therefore, one, with some degree of certainty, classifies malignant and benign tumors on the basis of microscopic irregularity.

Malignant neoplasms are traditionally characterized by singularity, capacity to metastasize, tendency to recur, their mortal nature, excessive mitotic activity and anaplasia. That many of these characteristics alone do not denote malignancy is exemplified in many circumstances common in medical experience, e.g., during pregnancy, placental fragments metastasize to the lungs, endometrium and products of conception undergo exceptional mitotic activity and many regenerating tissues are anaplastic. Certain tumors are composed of well differentiated elements with little mitotic activity, yet their effects are suggestive of malignancy. This could be true of hemangiomata, thyroid tumors, uterine fibroids and neurofibromas. Mention of these discrepancies reminds us to employ as many criteria as possible in making a diagnosis of malignant tumor.

Grading of tumors for prognostic purposes should not be attempted solely on the basis of anaplasia, percentage of mitotic figures or stromal reaction. The future of a patient should be estimated in the light of also the patient's age and general health, the organ in which the tumor arises, the accessibility of the tumor, its radiosensitivity, delay in diagnosis and treatment and the presence or absence of metastases.

The pathologist and surgeon should be familiar with the modes of dissemination of malignant disease. The knowledge that tumors spread by direct extension, infiltration, embolism and secondary implantation should influence one in his handling of tumors, the extent of resection, and his choice of ancillary therapeutic measures such as radioactive isotopes, x-ray and radium.

Although dependence often is put justifiably on the words carcinoma; non-invasive; benign; and pseudomalignant when they appear in a pathologic report; patience and understanding are necessary when uncertainty arises. In these instances better treatment will result if the limitations of the biopsy method, the microscope, and the judgement employed are fully realized.

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Scientific Papers

HYPNOSIS AND SELF-HYPNOSIS IN MEDICAL PRACTICE

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Maryland physicians, in progressively increasing numbers, are now hypnotizing patients. Any technique, that will enable them not only to alleviate pain and discomfort but to allay anxiety and apprehension, is well worth while. There seems no objection *per se*, therefore, to including hypnosis in the armamentarium of the physician (5). If it be utilized, however, certain unavoidable responsibilities must concurrently be assumed (3, 4, 6).

Every physician by virtue of his training is qualified to use and to prescribe sedatives, analgesics and anaesthetics. It therefore seems well within the fields of our professional competence, if we do hypnotize patients, to utilize hypnosis for sedation, analgesia and anesthesia. Major surgery—a lung operation by Marmer in California, and in Chicago a hysterectomy by Kroger and DeLee—was performed in 1956 under hypno-anaesthesia. The anaesthetic and analgesic uses of hypnosis in Dentistry, in Obstetrics, and in other fields of Medicine are obvious. Hypnotic techniques may be utilized in selected cases to control even the agonizing headaches of a brain tumor. And the suggestion so frequently made during trance induction—"You are going deep, deep, very, very deep asleep"—illustrates with the sharpness of caricature its use as a sedative. The term *hypnosis* itself underscores this use (1, 5).

If more than hypno-sedation, hypno-analgesia or hypno-anaesthesia is attempted, however,

further training is needed (1, 2). This is because the relationship that develops between the hypnotist (in this case, the physician) and his subject (the patient) is of exactly the same order and intensity as that which comes into existence, but over an extended period of time, during intensive psychotherapy (3). Hypnosis can have tremendous potentialities for use in medical practice, but unless this be realized its mis-use will remain frequent and its dangers grave.

More than mere ability to hypnotize patients seems necessary (2, 3).

Any—or almost any—student can be taught this—and in a brief period of time. Training is needed not in hypnosis but in what, for want of a better term, has been characterized as *psychodynamics*, as knowledge of, as experience with, and as insight into the motivational bases of human behavior. Without such training the hypnotist-physician may unwittingly and without realizing it, in his desire to be of help to his patient, harm rather than aid him. For, to quote from the 1955 report of the British Medical Association, "the application of the hypnotic technique without such knowledge and experience provides no control of the powerful emotions which may be released."

One out of every twelve of the population has been, is, or will be so seriously ill emotionally at some stage or other in his life as to require psychiatric hospitalization. Fifty to seventy per cent of all symptoms seen by the general practitioner are emotionally based or have pronounced emotional overtones. They can of course be reached on hypnotic levels. Patients have anxiety, disease, discomfort and pain. These can

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be allayed and alleviated with sedatives, analgesics and anaesthetics, whether this sedation, analgesia and anaesthesia be pharmacologic or hypnotic. Hypnosis can be used in this way. The physician, whether he use it or not, should be aware of this fact.

Unfortunately, because rapid, melodramatic apparently magical cures, temporary though they be, are effected by direct verbal suggestion when patients with neurotic and psychotic disease are hypnotized, more ambitious hypnotic techniques are sometimes utilized—and patients as a result have been harmed rather than helped. The physician who wishes to do psychotherapy (whether on hypnotic or non-hypnotic levels) needs training in psychotherapy. No surgeon, for instance, would feel that hypnosis could be substituted for adequate training in surgery; and what holds true for surgery, in this respect at least, holds equally true for psychiatry. No one can substitute mere ability to hypnotize for training either in surgery or in psychiatry. This latter, nevertheless, is attempted. At times, results have been disastrous.

The American Medical Association has felt this a matter of concern, and hearings on the subject are now being held by its Council on Mental Health. A very conservative approach seems indicated.

When we as physicians begin making use of hypnotic techniques, it would seem best to observe one simple precaution: to approach patients on hypnotic levels only in ways and with techniques which on non-hypnotic levels would be within, not beyond, the fields of our professional competence if these self-same patients were not hypnotized. We may otherwise, although perhaps rarely, find ourselves requesting emergency psychiatric help since homosexual panics and even suicidal depressions may at times crystallize out.

Some physicians and dentists are now unqualifiedly recommending self-hypnosis. A few have already given post-hypnotic suggestions to their hypnotized patients so that when for instance

they develop headaches they can hypnotize themselves and thereby be rid of them. Three of our very recent Maryland patients had been utilizing suggestions of this type for the development of overt schizophrenic symptoms. One, incidentally, was a physician. The use of repeated self-hypnosis, whatever the rationalization advanced, frequently proves to be based on a desire to further fantasy formation. There is little in the whole field of psychodynamics, in our opinion, with so great a potential for harm. At the present stage of medical knowledge, self-hypnosis can with safety be recommended only after psychiatric consultation, so that psychiatric clearance for it is obtained. It should not otherwise be suggested.

If the physician himself makes much use of self-hypnosis, it would be best for him to cease hypnotizing patients. Or if he be hypnosis-reincarnation minded and feels convinced that he has regressed patients to previous lives, he should under no circumstances be using hypnotic techniques: he is either himself psychiatrically ill or completely unaware of what he is handling (2).

To recapitulate: as physicians, if we use hypnosis—as we use drugs—for sedation, analgesia or anaesthesia, we are well within the fields of our medical competence. If we use it for other purposes, then supervised instruction in psychodynamics seems indicated. Instruction, when given, should preferably be under the aegis of medical schools and medical societies, not stage entertainers. Potentialities can be stressed—but contra-indications and dangers likewise require emphasis.

Precautions, of course, must be observed, no matter what techniques we utilize. A rare tonsillectomy death does take place, but this does not mean that the operation should be discarded. Plane crashes do occur, but no one would recommend cancellation of all flights.

As physicians, we expect colleagues who do tonsillectomies to be technically equipped to

perform the operation. As passengers, we demand experienced pilots for our flights.

And by analogy, we feel that when as physicians we make use of hypnotic techniques in our practice, we should of necessity be adequately trained in this area. While a speech, a lecture, a demonstration or even a seminar or two some thirty years ago would have been sufficient, this no longer suffices. Supervised work—on professional, not non-professional—levels, is mandatory. This requires the expenditure of time, of effort and of energy on the part of those of us who wish to equip ourselves in this way. It is to be regretted that, although in Maryland some of us have had the necessary training, a number

of us—who have learned the relatively simple procedures involved in hypnotizing patients—have not.

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SUGGESTED READING

1. ESTABROOKS, G.: "Hypnotism," (Second Edition), Dutton, N. Y., 1957.
2. KLINE, M. V.: "A Scientific Report on the Search for Bridey Murphy," Julian, N. Y., 1956.
3. ROSEN, H.: "Hypnotherapy in Clinical Psychiatry," Julian, N. Y., 1953.
4. SCHNECK, J. M.: Hypnosis in Medical Practice," Thomas, Springfield, Ill., 1952.
5. WEITZENHOFFER, A.: "Hypnotism," Wiley, N. Y., 1953.
6. WOLBERG, L. R.: "Medical Hypnosis," Grune & Stratton, N. Y., 1948.

THE CIRCULATION OF THE SPLEEN IN ITS BEARING ON CERTAIN OF THE SPLENOPATHIES¹

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The intermediary circulation of the spleen, that is that part of it between the terminal arterioles and the primary venous tributaries as seen in the pulp of the spleen, has been a very controversial subject ever since the time of Malpighi (1), who first discussed it in 1666. My interest in the subject, aside from the histological significance in its study, is in the relation of this intermediate circulation to certain of the splenopathies.

Before discussing the clinical connotations, it is necessary to present certain aspects of the controversy, and to discuss some of the histology of the component parts of the intermediate circulation as we have seen them in our studies of the splenic circulation in the living mouse. This work has been done with Professor Parpart, the Chair-

man of the Department of Biology in Princeton University, and with his associate Dr. Joseph Chang.

For the past century the arguments about the exact nature of the connections between the arterial and the venous systems—the so called intermediary zone in the pulp of the spleen—have been heated and contradictory. Three theories have been advanced.

1. The theory of the closed circulation. This holds that the blood in the spleen, as in other organs, passes directly through endothelial lined pathways, from arteries to veins.

2. The theory of the open circulation. Its supporters maintain that the terminal arterioles empty first into the spaces between the pulp cords of the spleen, and from these pulp spaces or channels into the venous tributaries.

3. The theory of both the open and the closed circulation. Protagonists of this theory are convinced that the blood passes directly from the terminal arteries into the venous tributaries, as

¹ Presented before the Baltimore City Medical Society on Friday, February 4, 1955, at 8:30 P.M., at the Medical and Chirurgical Faculty Building, 1211 Cathedral Street, Baltimore 1, Maryland.

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well as into the pulp spaces and from there into the venous tributaries.

The cause of this confusion has been largely due to the methods that have been used in the histological study of the problem. Several methods have been used. 1. The usual histological techniques of sectioning and staining the fixed tissue of the spleen. These are all open to very serious faults: first, that the dead organ is used; secondly, that the shrinkage and artifacts that result in such a delicate vascular organ give a distorted and very misleading picture of the living circulation. 2. The injection method. This was first used by Malphigi, when he inflated the splenic vein with air. After drying the organ he claimed to have demonstrated the pattern of the venous system. He was the first to show the slit like openings in these channels which he called the stigmata. Ruysch (2) in 1696, using the injection method, was the first to describe the terminal branches of the splenic arteries, which he called penicilli, claiming that they emptied into the pulp spaces.

Many histologists since then have used materials of different kinds, including mercury, cinabar, India ink, soluble and insoluble dyes, gelatin and starch, into both the artery and the vein, separately and simultaneously with contradictory results. These conflicting findings are the result of the finer vascular channels, with extravasation, depending upon the amount of pressure used in the injections. In all these injection experiments the sections studied were made from the dead excised spleen.

3. Nucleated red cells of birds and amphibiae, as well as starch granules of varying diameters, have been injected into the splenic artery of living animals, and the spleen, removed at varying intervals, studied by the usual histological techniques. These studies, interesting as they are, have been open to the same criticisms of histological techniques in the dead organ.

4. The transillumination or direct method of studying the circulation in the living spleen. This method was apparently first used by Lister (3)

in examining the web and the omentum of the frog in his studies of inflammation. Some ten years later Langerhans (4) used the method of direct illumination in his studies of the histology of the pancreas. But the method was not suggested for the study of the circulation of the spleen until 1931, when McNee (5) transilluminated the thin edge of the living spleen of the mouse and was able to see the circulation functioning under the dissecting microscope.

The credit for renewing interest in, and in improving this method, belongs to Knisely (6). He published his first paper in 1934. He concentrated and intensified the transillumination by passing the reflected beam of an electric light through a quartz rod to its slender tip, which was placed under the edge of a partially exteriorized spleen. Mice, rats and kittens were used in his studies.

The fact that the partially exteriorized spleen moved at the rate of 60-70 times a minute, as the result of the transmitted respiratory movements, gave him only fleeting glimpses of the circulation, and led him to make a number of subjective interpretations which have not been corroborated by other investigators who have used more accurate methods of studying the exteriorized spleen, free from the rapid respiratory movements.

At this point I must emphasize the fact that the study of the circulation in the spleen is incomparably more accurate and informative in the living animal than with the techniques used in the study of the dead excised spleen. One has only to see the active circulation in the living spleen to appreciate the entirely different picture that is seen in the stained sections of the same spleen after it has been excised.

However there are problems of refractility in the translucent tissues of the reticulum and the walls of the blood vessels that are as yet unsolved, and that accounts for some of the conflicting views held by those that have used the transillumination technique. The subjective interpretation of what one sees is still too easy.

Inasmuch as in the past the descriptions of the intermediary circulation have been verbal and by free hand drawings—obviously subjective—we have made every effort to present our findings at the Biological Laboratory in Princeton University objectively, by means of movie films taken directly from the microscope, or from the television screen from the microscope, showing the active circulation of the spleen in the living mouse.

In the past the controversy between the protagonists of the three theories regarding the vascular pattern of the intermediary zone, between the arterial and the venous components of the splenic circulation has largely been an anatomical one. But the physiologists have been interested in this zone in its bearing on the storage function of red cells and in the so called "grave yard" function of destroying aging red cells. That both these functions take place in the vascular channels of the pulp can be interpreted in the study of the living circulation.

Time does not permit, nor would it be of sufficient interest to you who are interested especially in clinical problems, to go into the details of this laboratory study. But I shall try to explain our findings in relation to their clinical significance.

The arteries are seen smaller in diameter than the veins. The flow of blood through them is usually so rapid that individual blood cells are not distinguishable. These terminal arterioles empty into both the venous tributaries as well as into the pulp spaces. That is we are convinced that the circulation in the splenic pulp is both open and closed. The writer at one time some ten or more years ago, working with the quartz rod illumination, with Dr. David McKenzie (7) at the Presbyterian Hospital, considered the circulation in the intermediary zone to be entirely an open one. But with the technique that we have used in Princeton, with much better transillumination, it is possible to demonstrate both open and closed circulation.

The veins as a rule show a much slower blood

flow, so that it is possible to differentiate the red cells from the leukocytes, and at times platelets can be seen distinctly. The flow, as in the pulp spaces is much more variable than in the arteries, at times very slow or stopped, at others reversed, depending upon the differential pressures from the feeding artery or the block to the flow in the venous tributary beyond. Both the arteries and the veins are lined with endothelial cells that can be best demonstrated with the use of vital staining of the animal a day or two before the exposure of the spleen.

The pulp spaces are the most variable structures to be seen in the spleen. For the most part they are tortuous irregular spaces communicating one with others. They are lined by reticulum fibres and by so-called splenocytes or phagocytic cells. These pulp spaces constitute a three dimensional system of channels, intimately connected with one another by actual or potential passages. They vary in diameter but in all instances are capable of allowing blood cells and plasma to pass through them.

Although the so-called stigmata have not been identified as such by us we have been able to see in all our specimens blood cells passing from pulp spaces through the walls of venous tributaries. The splenic sinuses that have been described by a number of investigators, and especially by Knisely as having three phases of activity with sphincters at the entrance and exit of these channels, we have been unable to identify as individual structures. We believe that they are venous tributaries, in which the blood flow is dependent upon the differential pressures as well as upon the state of fatigue in the spleen under observation.

The details of the transillumination technique we have used as well as method of maintaining constant body temperature of the animal and that of the normal saline solution that is kept circulating over and around the exteriorized spleen under the microscope, will appear later in an extensive paper to be published in the *Anatomical Record*.

The open circulation in the zone between the terminal arteries and the venous tributaries, a sponge like area of the pulp of the spleen, is of special interest to the clinician in the study of certain of the splenopathies, and one that has interested the writer especially.

THE SYNDROME OF CONGENITAL MICROCYTIC OR SPHEROCYTIC HEMOLYTIC JAUNDICE

This is a well recognized form of splenopathy, with clear cut hematological and pathological findings, as well as symptomatic and physical characteristics, and definite curative therapy with splenectomy. It is a chronic disease, usually beginning in childhood with a familial history in one or more members of the family. It is of long duration and of relative mildness, except during the acute exacerbations which may occur. The presenting symptom is a variable chronic jaundice with the outstanding physical finding of an enlarged spleen. The positive diagnosis is established by the hematological examination.

In all the typical cases the peripheral blood contains the inherited spherocytic microcytic red cells which show an increased fragility. These two findings are pathognomonic of the disease, and without them the diagnosis should not be made. During the exacerbations of hemolysis and increased jaundice there is a marked rise in the reticulocyte count, in some cases reaching 70 per cent. The disease is cured by the removal of the enlarged spleen, provided no accessory splenic tissue is overlooked.

That the spleen is the site of the hemolysis is proved by the following facts: If the count of the spherical red cells in the splenic artery, the pulp, and the splenic vein is made, it will be found that the arterial blood has more spherocytes than the venous blood, and that the pulp blood contains the greatest number of these red cells. In one of the patients that I operated upon at the Presbyterian Hospital in New York several years ago we found the following counts:

Spherocytes in the splenic arterial blood.....	10.4 per cent
Spherocytes in the splenic vein blood.....	8.4 per cent
Spherocytes in the splenic pulp blood.....	48 per cent

Measurements of the serum bilirubin of the splenic vein blood shows more pigment than that of the splenic arterial blood. The stained sections of the spleens removed from these patients always show the pulp spaces engorged with red cells. This is the chief reason for the greatly enlarged spleen. After splenectomy the inherited spherocytes and the increased red cell fragility persist, but hemolysis and jaundice do not recur.

With the evidence established that the spleen is the site of the hemolysis in this disease, the question may well be asked, "Why does the spleen cause this hemolysis." This has never been positively answered but I believe that the answer can be found in the structures in the intermediary zone of the pulp and in the shape of the inherited spherocytes. It is well known that the red cell becomes more susceptible to hemolysis as it changes its shape from the normal biconcave to the round or globular form. The engorgement of the pulp spaces with these spherical red cells, and the greater difficulty of such cells in passing through the walls of the venous tributaries as compared to the normal biconcave cells, leaves these spherocytes in contact with the phagocytic splenocytes and reticulum for a longer time, and thus exposes them to greater hemolysis.

The greater concentration of these spherocytes in the pulp blood which we found in our patients—almost five times that of the splenic vein blood—is further evidence of the difficulty that these cells have in passing from the pulp into the venous tributaries, and their greater or longer exposure to the phagocytic action of the cells in the pulp.

SPLENOPORTOGRAPHY

During the past four years the diagnostic procedure of injecting a radio opaque fluid, such as diadrast or urokon, percutaneously into the spleen, to determine the site of portal bed block or to determine the patency of a portacaval shunt, has been reported by a number of investigators (8, 9), and is being used in-

creasingly in a number of clinics. Abeatici and Campi (8) were the first to describe the method in 1951, and in the same year Leger (9) applied the same technique in a clinical case for the first time.

The fact that within 3-4 seconds the dye can be shown passing into the portal vein, and that within 10 seconds the greater part of the radio opaque fluid has passed out of the portal vein, as well as outlining a large part of the spleen, is astonishing. But thus far no explanation for this rapid diffusion has been offered so far as the character of the circulation is concerned. If one adheres to the theory of the closed circulation, that is that the blood passes directly from the arteries into the veins, it is extremely difficult to explain this rapid diffusion of the radio-opaque fluid through the spleen and out of the portal vein. On the other hand if the circulation is both open and closed this rapid diffusion can be much more easily explained. At the present time we are studying the effect of injecting India ink particles into the spleen of the living mouse, but as yet cannot report conclusive findings. Later we plan to use the pigmented secretion of the squid in this study.

CHRONIC PORTAL HYPERTENSION AND PORTAL BED BLOCK

This is a condition that in many instances is associated with gastrointestinal hemorrhage and an enlarged spleen, and is a syndrome that has always been of the greatest concern to the physician and surgeon.

Chronic portal hypertension is the result of an intrahepatic or an extrahepatic portal bed block. The degree of hypertension depends upon the extent of the block and the amount of collateral circulation that develops as the result of the block. Intrahepatic block is seen in the great majority of cases in cirrhosis. Extrahepatic block is the result of thrombosis or of congenital obliteration of the portal vein. In this form of portal block the liver parenchyma is normal. This provides a means of differentiating between extra and intrahepatic block. Portal block does

not necessarily cause chronic portal hypertension, for probably not more than half of the cases with portal block develop chronic hypertension. This explains the fact that not all cases of cirrhosis develop esophageal varices and esophageal hemorrhage. The collateral circulation that prevents chronic portal hypertension may take place through a number of pathways, varying with the site of block. If intrahepatic the blood may be shunted through the deep cystic veins, the epiploic veins of the gastrohepatic omentum, the hepatocolic and the hepatorenal veins, the diaphragmatic veins and the suspensory ligament veins of the liver as well as the coronary-esophageal route. In lesions causing extrahepatic block McIndoe (10) has classified the collateral circulation into three groups, based on an embryologic basis: 1. The veins located at the two sites of the gastrointestinal tract where glandular epithelium unites with squamous epithelium, i.e. at the cardia and at the anus. The veins at the cardia provide an outlet to the superior cava by way of the esophageal veins to the azygos system. This pathway is equally patent in intrahepatic block. The veins at the anus give an outlet to the inferior vena cava by way of the middle hemorrhoidal veins. 2. The veins at the site of the obliterated fetal circulation, the paraumbilical veins in the round ligament of the liver. 3. The veins found at the sites within the abdomen where the gastrointestinal tract and the appendages, or the organs developed from it become retroperitoneal developmentally, or adherent to the abdominal walls as a result of an inflammatory or other pathologic process.

The most common collateral route, and the most threatening one, is the coronary-esophageal one that results in esophageal varices. These thin walled varices are easily ruptured as the result of trauma from food and the muscular contracture of swallowing, and from these some of the most severe forms of bleeding from the gastrointestinal tract take place.

The syndrome of chronic portal hypertension,

erroneously spoken of as Banti's disease, is seen in both intra and extrahepatic block. It is characterized by a congestive splenomegaly, secondary anemia, a leukopenia, a thrombocytopenia, and a history of one or more severe esophageal hemorrhages, and demonstrable esophageal varices. By means of a careful history and physical examination, and with the use of liver chemistry studies and liver function tests, it is possible in the great majority of cases to determine whether the syndrome is due to intra or extrahepatic block. With the new technique of splenoportography it is now possible to visualize the site of the block. It must be emphasized that in the cases of extrahepatic block the liver chemistry and liver function tests are normal.

For the explanation of the enlarged spleen in chronic portal hypertension bear in mind the structure of the component parts of the intermediate zone of the splenic circulation. The most marked effect of the high portal pressure, transmitted to the veins and their tributaries, is seen in the distension of these vessels with compression of the pulp spaces. There is also seen a hyperplasia of the reticular tissues. This makes it difficult for the blood to pass from the terminal arterioles into the pulp spaces. This in turn results in hemorrhages into and about the Malpighian follicles, with the later development of nodular areas of fibrosis, giving the typical 'fibroadenie,' first described by Banti (11).

The gradual exclusion of the splenic pulp from the active circulation results in atrophy of the reticulum with connective tissue replacement and a fibrous spleen. This effect can be reproduced, as was done by Rousselot and Thompson (12), in the Surgical Laboratory of the College of Physicians and Surgeons, by injecting fine particulate matter of silica into the portal vein of dogs, causing the same type of portal cirrhosis that is seen in cases of *Schistosoma mansoni* infestation. This gave a typical picture of Banti's syndrome. The dogs developed a high portal pressure, marked esophageal varices,

ascites, an anemia and a thrombocytopenia. The sections of their spleens showed distended venous channels and narrowed pulp spaces.

Recently, Madden and Lord (13) have reported their studies of the intrahepatic circulation in normal and cirrhotic livers, by injections of colored solutions of neoprene latex. Red latex was injected into the hepatic artery, blue into the hepatic vein and yellow into the portal vein. Hydrochloric acid was used in the corrosion of the liver parenchyma. A study of the corrosions of the three normal livers revealed a uniform pattern of the intrahepatic circulation, with the tributaries of the portal vein and the hepatic artery in constant equilibrium. No demonstrable intrahepatic communications between these two vessels, or between the hepatic artery and the hepatic veins, could be seen.

However evidence of intrahepatic communications between the portal vein (yellow) and the hepatic veins (blue) as shown in the chartreuse color indicated a mixture of these two bloods.

In fourteen cirrhotic livers interesting differences were seen. In ten livers with irreversible ascites they found an absolute increase in both portal venous and hepatic arterial beds (the inflow tract), and a decrease in the caliber of the central hepatic veins, the majority of which were occluded by obliterative fibrosis. These authors concluded from their studies on cirrhosis of the liver that irreversible, or intractable, ascites results from the obstructive fibrosis of the hepatic veins. On the other hand, in acute, temporary or reversible ascites obstruction to the outflow tract (hepatic vein) they believe is due to edema of the liver cells. Proper diet and medication in such patients results in subsidence of the intrahepatic cellular edema, and with improvement in the blood flow through the hepatic veins, the ascites disappears.

Inasmuch as the most serious problem in the treatment of chronic portal hypertension is the immediate and the preventive treatment of esophageal hemorrhage a number of different forms of therapy have been proposed and used.

One of the first was the so-called Talma procedure, where attempts were made to produce a collateral circulation between the liver and the omentum, and the Morrison operation designed to create a collateral circulation between the omentum and the anterior abdominal wall. The purpose of omentopexy was sound but the successful results were very rare because the collateral shunting was seldom of any size to relieve the portal pressure.

Other methods of dealing with the problem consisted of cauterizing and ligating the esophageal varices; of resecting the stomach with the idea of interrupting the coronary-esophageal collateral, or of preventing the gastric hydrochloric acid from digesting the esophageal varices; ligation of the hepatic artery in cirrhosis cases with the idea of improving the intrahepatic flow of portal blood. Shutting off the greater part of oxygenated blood from a damaged liver seems a poor reason for carrying out this last mentioned procedure. For many years the operation of splenectomy for Banti's syndrome with esophageal bleeding had a real vogue, for it relieved the patients of the danger of severe hemorrhage for a variable period of time, but if followed long enough these patients gave a history of recurrent bleeding, for the causative factor of chronic portal hypertension was only temporarily relieved. And the same very significant defect in all of the methods mentioned above has been that the causative factor of chronic portal hypertension was not removed.

It must be emphasized that in cirrhosis the damaged liver cells, with their swelling, result in a narrowing of the liver sinuses, causing an intrahepatic block to the inflow of both portal and arterial blood. If the damage to the liver cells continues fibrous replacement takes place, still further blocking the entrance of portal blood, and causing an increase in chronic portal hypertension. In addition there takes place a diversion of hepatic arterial blood in the shunting phase between the arterial and portal branches, with a reduction in the amount of oxygenated

blood to the liver cells. With this continuing process damage to the liver parenchyma goes on to the irreversible stage and liver failure.

Ligation of the hepatic artery to control esophageal hemorrhage, is obviously ill advised. But the creation of relatively large by-pass, by anastomosing the portal vein to the vena cava or the splenic vein to the left renal vein, provides an outlet of high pressure portal blood to low pressure caval blood, with prompt reduction of portal hypertension, and the relief of tension on the vulnerable esophageal varices. This reduction of portal pressure has been demonstrated repeatedly by manometric measurements of 500 mm. of water, before the shunt, to 200 or less after the opening of the by-pass. This is further shown after operation by the disappearance of the esophageal varices in X-ray films, and the freedom from hemorrhage after operation.

The portacaval shunt should be used most often in cirrhosis patients with intrahepatic block. But in extrahepatic block the site of the block is in the portal vein, which makes it unfit for shunting. In such cases the splenic vein should be anastomosed to the side of the left renal vein, after removing the spleen. For this reason the spleen should not be removed unless one is prepared to do the splenorenal shunt.

It was the failure of preventing recurrent esophageal bleeding in the many cases of Banti's syndrome on whom we had done a splenectomy in the Spleen Clinic at the Presbyterian Hospital, that led us to attempt the portacaval shunting operation. A word about the interesting story of the Eck fistula:

Nikolai Vladimirovich Eck was a Russian physiologist. In 1877 he published his report on "The Ligature of the Portal Vein (14)." He developed the portacaval fistula operation for the experimental study of diseases of the liver and the relation of the liver to metabolism. Eck suggested that a portacaval fistula might be used to sidetract obstruction in the portal vein, but the procedure found no trial for many years,

until Tansini (15), in 1902 advocated it on the basis of his animal experiments.

Vidal (16), of Angers, claimed to have done this operation for the first time, on a patient with portal obstruction, in 1903. This patient lived for 14 weeks and died of a septic endophlebitis. DeMartel (17) reported a patient upon whom he had done an Eck fistula in 1910. The patient succumbed shortly with anuria. Lenoir (18), according to Rosenstein, performed a similar operation with an end of portal vein to side of vena cava, but the patient died of anuria. Rosenstein (18) presented a 60 year old woman before the 41st. Congress of German Surgeons upon whom he had done an Eck fistula, side of portal to side of cava, for cirrhosis and ascites, in 1911. She had been tapped repeatedly but five months later this patient required only an occasional paracentesis with much less ascites.

Quierolo (19), in 1893, carried out a procedure for an Eck fistula in dogs which was never given adequate recognition. He everted the cut end of the portal vein over a glass tube and introduced this into an opening in the side of the vena cava, below the renals; two of these animals lived six months after the operation. We were not aware of Quierolo's work until we had performed the portacaval shunt in six patients using very much the same technique, but with vitallium tubes instead of glass.

Dr. Blakemore and I revived the portacaval shunt operation in 1944, when we did our first such procedure with a splenorenal vein anastomosis, on a five year old girl having a cirrhosis. During the next two years we performed some 40 more shunt operations on patients with intra and extrahepatic chronic portal hypertension, measuring the portal pressure before and after the completion of the shunt, with manometric portal pressure determinations and with liver biopsies. Our first patient lived for two years, but died of a renal insufficiency, for we had removed the left kidney in doing the anastomosis of the splenic and left renal vein, after removing

the spleen and the left kidney. During these two years we learned many things that improved the technique of the operation, especially in discarding the vitallium tubes and using silk as is done now in so much of the vascular surgery today. We soon learned of the difference in immediate and late risk in patients with intra and extrahepatic block.

Since 1946 Dr. Arthur H. Blakemore has had an amazing experience with not only the operation but with the whole field of splenic and hepatic lesions associated with portal hypertension. He has become the world authority on the subject, because of his great experience as well as the many fundamental contributions that he has made in this as well in the whole field of vascular surgery. It is a privilege for me who worked with him in the beginning of this work to pay him this tribute.

Since 1944, including some 40 cases that we did together, Dr. Blakemore's series includes 262 shunts (20). The site of portal block in this series was intrahepatic, due to cirrhosis of the liver, in 203 patients (77.4 per cent), and extrahepatic, due to a block in the portal vein outside the liver, in 59 patients (22.6 per cent). The shunting operation was accomplished in the first 117 patients, with cirrhosis, with a postoperative mortality of 23 per cent. The mortality rate in the subsequent 86 patients was 15 per cent. This decrease in mortality is attributed primarily to the improvement in the pre-operative preparation of the patients.

In the extrahepatic block patients the operative mortality is very much lower, 6.1 per cent. If the cirrhosis is not severe, the operative risk begins to approach that of the extrahepatic group, demonstrating the determining factor of liver function in the operative risk in shunting operations for chronic portal hypertension.

When we began this work we were not as aware of the difference in risk in the intrahepatic and the extrahepatic block cases, or of the greater risk in operating on the advanced cir-

rhotics, that Blakemore has called the "dead end cirrhotics." It has become evident in the follow-up of these advanced cases that the prognosis is poor, for although the portal hypertension is relieved with no recurrence of esophageal hemorrhage, the patients die in one to two years as a result of liver failure.

Evaluation of the cirrhotics that should not be operated upon is determined by the following tests: Bromsulphalein retention above 30 per cent. Prothrombin time in excess of 4.5 seconds above normal. Cephalin flocculation above 3 plus.

Preoperative Preparation of the Severely Bleeding Patient. This is at times the most serious and immediate problem. Blakemore has devised a tube-balloon combination for tamponading the bleeding esophageal varices, which he and now many others have used successfully in stopping the hemorrhage; and making blood transfusion more effective in bringing these patients out of their hemorrhagic shock, as well as making it possible to evaluate and prepare the patients for the shunting procedure.

Preoperative Preparations. Cirrhotics with ascites are best treated for a period of weeks by producing a negative sodium balance. The Pateck regimen consisting of low sodium, high carbohydrate, high protein, high vitamin diet is usually effective in eliminating or greatly reducing the ascites.

At the Presbyterian Hospital all patients with cirrhosis and ascites that are considered candidates for a shunt operation are admitted to the Surgical Metabolism Ward. They are evaluated with fluid, electrolyte and protein balance studies, and are put on a diet of 2500 calories carbohydrate, 125 protein grams, 1 gram of sodium chloride. Resin (Carbo-resin) Lilly, is given in 15 gram amounts by mouth with each meal. To prevent the development of acidosis, potassium in 20-25 meq. is given 2 hours after each dose of resin. Resin should be stopped if the blood CO₂ falls below the 25 meq. level.

FOLLOW-UP RESULTS

In a recent resume (21) of shunt cases followed, Dr. Blakemore gives the following data:

One month to seven year survivals in 196 shunted patients, 49 extrahepatic, 147 intrahepatic

Survival Years	# of Patients	# of Deaths	# Alive
Extrahepatic			
1 mo.-1 yr.	9	0	9
1-2 yrs.	11	0	11
2-3 yrs.	9	1	8
3-4 yrs.	5	1	4
4-5 yrs.	6	0	6
5-6 yrs.	5	0	5
6-7 yrs.	1	0	1
Total	46	2 (4.3%)	44 (95.7%)
Intrahepatic			
1 mo.-1 yr.	37	8	29
1-2 yrs.	33	6	27
2-3 yrs.	19	5	14
3-4 yrs.	16	0	16
4-5 yrs.	9	2	7
5-6 yrs.	2	0	2
6-7 yrs.	1	0	1
Total	117	21 (17.9%)	96 (82%)

Dr. Blakemore, in a personal communication, very recently received, tells me that a patient from Alabama that he and I operated upon eleven years ago for cirrhosis and ascites is active and able to work. He has been entirely relieved of intractable ascites and recent liver chemistry studies reveal his liver status to be sufficiently good to permit him to carry on his work.

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BIBLIOGRAPHY

1. MALPHIGI, MARCELLO. *De Viscerorum Structura*, Bononiae, 1669.
2. RUYSCH, F. *Opera omnia anatomico-medico-chirurgica*, Amsterdam, 1721.
3. LISTER, JOSEPH. *Philosoph. Transactions*, Part II, for 1858, 148: 645.
4. LANGERHANS, P. *Beitrage zur mikroskopischen Anat. der Bauchepeicheldruse*. Inaug. Dissert. Lange, Berlin, 1869.

5. McNEE, J. W. The Spleen; its structure, function and diseases. Lettsonian Lectures, 1931. *Lancet* **1**: 951, 1009 and 1063, 1931.
6. KNISELY, M. H.. A method of illuminating living structures for microscopic study. *Anat. Record*, **64**: 499-524, 1936a.
7. MACKENZIE, D. W., WHIPPLE, A. O. AND WINTERSTEINER, M. P. Studies on the microscopic anatomy and physiology of living transilluminated mammalian spleens. *Amer. Jour. Anat.* **68**: 397-456, 1941.
8. ABEATICI, S. AND CAMPI, L. *Minerva Medic. Torino*, **42**: 593, 1951.
9. LEGER, L. *Mem. Acad. Chir. Paris*, **77**: 712. LEGER, L. ET PROUX, C. *Arch. des Maladies de l'Appareil Digestif*, **43**, #6, Juin: 641-660, 1954.
10. McINDOE, A. H.. *Arch. of Path.* **5**: 23-42, 1928.
11. BANTI, G.. *Arch. d. scuola d'anat. path. Firenze*, **2**: 55-121, 1883.
12. ROUSSELOT, L. M. AND THOMPSON, W. P. *Proc. Soc. Exp. Biol. and Med.* **40**: 705, 1939.
13. MADDEN, J. L. AND LORD, J. M., JR. *Surg. Gyn. & Obst.* **99**: 385, 1954.
14. ECK, N. V. The ligature of the Portal Vein. *Voyeno Med. Jour.* 1877.
15. TANSINI. Referred to in *Zeitschr. f. d. gesamte exper. Med.* **3**: 261, 1914.
16. VIDAL, M. E. *Rev. de Chir.* **42**: 1181, 1910.
17. DE MARTEL, M. F. *Rev. de Chir.* **42**: 1181, 1910.
18. LENOIR. Referred to in *Zeitschr. f. d. gesamte exper. Med.* **3**: 263, 1914.
- 18a. ROSENSTEIN, P. *Arch. f. klin. Chir.* **98**: 1082, 1912.
19. QUIEROLO, G. B. *Untersuch. zu Naturlehre d. Menschen u. d. Thiere, Moleschott*, **15**: 233, 1893-1895.
20. BLAKEMORE, A. H. Personal Communication. Surgery of Cirrhosis. To appear in a forthcoming number of *Jour. of Chronic Diseases*.

THE INJECTION OF TRYPSIN IN AQUEOUS SOLUTION INTRAMUSCULARLY IN THE TREATMENT OF INFLAMMATION AND EDEMA¹

JOSEPH M. MILLER, M.D.,² JOHN A. SURMONTE, M.D.,²
AND MILTON GINSBERG, M.D.²

The ability of trypsin to influence the course of inflammation was demonstrated by Innerfield, Schwarz and Angrist (10). Intravenous administration was used in the initial investigations (1, 3, 8, 9, 10) and next the intramuscular method with aqueous solution (3, 9) and later with sesame oil (1, 2, 5, 7, 9) was explored. The results have been satisfactory.

Experience with streptokinase given intramuscularly in the treatment of inflammation and edema revealed that only small doses of streptokinase were necessary to produce good clinical results (11). It was of interest to determine whether small doses of trypsin in aqueous solution given intramuscularly could produce similar results.

The rationale for the use of trypsin is found in the current concept of the mechanism of inflammation and edema. Factors previously thought beneficial in the localization of bacteria and isolation of the damaged area may now be considered a hindrance to the penetration of antibacterial drugs to the involved site. The results in the treatment of cellulitis with the antibacterial drugs have been good but in the treatment of abscess have been poor. The action of many of the antibacterial drugs upon selected bacteria is greater *in vitro* than *in vivo*. Certain factors limiting the action of the agents must exist at the site of inflammation. Being borne by the blood, the bacteriostatic or bacteriocidal drugs cannot pass through the inflammatory barrier. Fibrinolysis may be indirectly effected by trypsin and may provide an avenue of attack upon one of the components of the limiting curtain. The underlying principle by which the

¹ Submitted September 3, 1955, for publication in the Maryland State Medical Journal.

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administration of trypsin intramuscularly in conjunction with the systemic use of the antibacterial drugs produces a reversal of the inflammatory reaction and edema is not known. Trypsin may activate plasminogen, in the euglobulin fraction of the blood, to plasmin. Plasmin causes lysis of fibrin. The solution of fibrin in the inflammatory barrier may permit better passage of the antibacterial drugs to the site of inflammation with improvement in results from the drugs.

Trypsin, 0.0025 grams, was dissolved in 1 cc. of physiologic saline and given intramuscularly immediately. Since trypsin in aqueous solution loses about 70 per cent of its activity in about 4 hours, the enzyme must be used promptly. Trypsin was given intramuscularly twice a day for three days.

Thirteen patients with varied conditions were treated using antibacterial drugs and this regime (table 1). Good results were obtained in nine patients and poor in four. In the patients with poor results, one patient had a cellulitis associated with a severe degree of arteriosclerosis, one patient had a chronic ulcer with a superimposed acute infection with slight improvement and two patients apparently were not given enough trypsin.

With the experience gained from this group of patients, the dose of trypsin was increased to 0.005 grams dissolved in 1 cc. of physiologic saline given intramuscularly in the same manner. Nine patients with varied conditions were treated with antibacterial drugs and this regime (Table 2). Good results were obtained in all of the patients.

TABLE 1

Condition Treated	Total Number	Results	
		Good	Poor
Cellulitis.....	9	6	3
Edema.....	2	2	—
Epididymitis.....	1	—	1
Thrombophlebitis.....	1	1	—
Total.....	13	9	4

TABLE 2

Condition Treated	Total Number	Results	
		Good	Poor
Cellulitis.....	2	2	—
Edema.....	5	5	—
Epididymitis.....	2	2	—
Total.....	9	9	—



FIG. 1. Face on December 29, 1954

REPORT OF CASES

1. A 24 year old white man was admitted to the hospital on December 21, 1954 with a deformity of the nose. A rhinoplasty was performed on December 28. Procaine penicillin G, 300,000 units in aqueous solution, and streptomycin, 0.5 gram, were given intramuscularly twice a day from December 28 through January 5, 1955. Trypsin,* 0.0025 gram was given intramuscularly twice daily from December 28 through December 30 for a total of six doses. On December 29, about a 30 per cent reduction of the edema had occurred (figure 1). This had increased to about 50 per cent on December 30 (figure 2).

* The trypsin was supplied by the National Drug Company, Philadelphia 44, Pennsylvania.



FIG. 2. Face on December 30, 1954



FIG. 4. Face on January 6, 1955

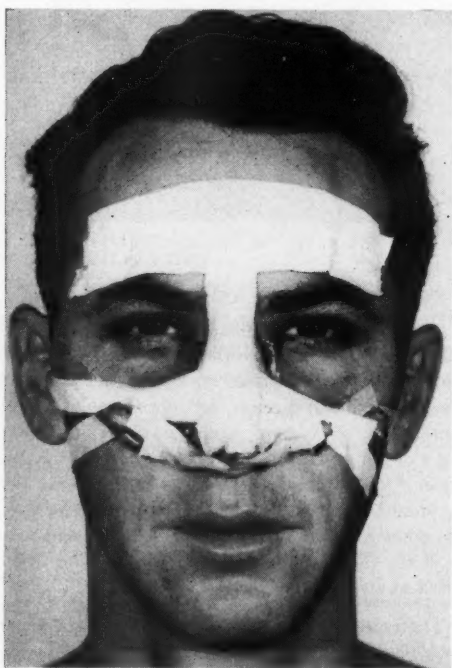


FIG. 3. Face on December 31, 1954



FIG. 5. Face on February 17, 1955

On December 31, about 60 per cent of the edema had gone (figure 3). The prothrombin time was 15.5 seconds with a control of 12.9 seconds. The edema continued to decrease although a slight amount remained on January



FIG. 6. Face on February 18, 1955



FIG. 7. Face on February 19, 1955

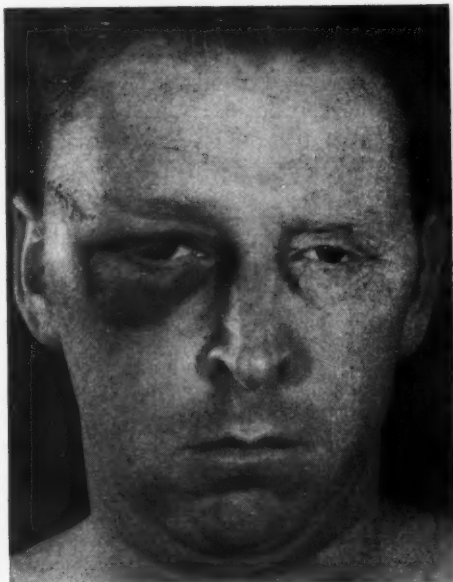


FIG. 8. Face on February 21, 1955

6, 1955 (figure 4). The patient was discharged from the hospital on January 6.

2. A 29 year old white man was admitted to the hospital on February 14, 1955 with a lipoma in the right temporal region. The tumor was excised on February 15. Procaine penicillin G in aqueous solution, 300,000 units, and streptomycin, 0.5 gram, were given intramuscularly twice a day from February 16 through February 19. On February 17, the palpebral fissure was closed and the eyelids were ecchymatic and edematous (figure 5). Trypsin, 0.0025 grams, was given intramuscularly twice daily from February 17 through February 19 for a total of six doses. On February 18, a slight resolution of the edema had occurred (figure 6). On February 18, the prothrombin time was 13.5 seconds with a control of 12.6 seconds. On February 19, the patient could see from the right eye and the edema had subsided about 30 per cent (figure 7). On February 21, the edema was about gone although a slight degree of ecchymosis was present (figure 8). The patient was discharged from the hospital on February 21.

COMMENT

Better results from the administration of trypsin intramuscularly were seen when the dose was increased from 0.0025 grams to 0.005 grams twice a day. Infections in which necrosis of tissue does not occur, as cellulitis, epididymitis

and thrombophlebitis, respond well to trypsin used in this manner. An antibacterial drug must be given systemically when treatment with trypsin is given. Edema from various causes will also respond to the intramuscular administration of trypsin.

Trypsin produces a beneficial effect on the inflammatory reaction and edema within two days after the start of treatment. An exacerbation of the infection was not seen in any of the patients. In the patients with granulating wounds, healing was hastened by the reduction of the surrounding induration. A delay in healing was not seen in any of the patients.

Pain and tenderness at the site of injection were minimal and were not greater than that expected from the intramuscular injection of any drug. A rise in temperature attributable to the administration of trypsin was not noted in any of the patients. Chills, cyanosis, or an allergic response were not found in any of the patients. The administration of antihistaminic drugs was not necessary. Petechiae, areas of ecchymosis, and hematomas were not seen. A granuloma at the site of injection was not observed in any of the patients. A significant change in the white blood cell count or the differential count was not seen. A significant prolongation of the prothrombin time was not observed.

Although the mechanism by which trypsin given intramuscularly produces a reversal of the inflammatory effect and the absorption of edema is not known, presumably, the liquefaction of thrombi of fibrin in arteries, veins and lymphatics and of fibrin in edema fluid, occurs. The improvement in the local circulation and the easier access of the humoral forces of the host and administered antibacterial drugs to the bacteria may account for the changes seen.

To obtain good results from the administration of trypsin intramuscularly, adequate circulation to the involved area must be present. Trypsin should not be given intramuscularly to patients with defects in the clotting mechanism due to the possibilities of hemorrhage.

SUMMARY

Trypsin given intramuscularly produces a modification of the inflammatory reaction and the absorption of edema. Treatment with trypsin given intramuscularly must be accompanied by the administration of an antibacterial drug. The use of trypsin given intramuscularly is not a substitute for sound surgical treatment. Further investigation in the use of trypsin given intramuscularly is indicated.

REFERENCES

1. FISHER, M. M. AND WILENSKY, N. D. Parenteral trypsin in peripheral vascular and thromboembolic diseases. *N. Y. State J. Med.* **54**: 659-662 (March 1) 1954.
2. GOLDEN, H. T. Intramuscular trypsin. Its effect in 83 patients with acute inflammatory disorders. *Delaware State Med. J.* **26**: 267-270 (October) 1954.
3. HOPEN, J. M. Use of parenteral trypsin in acute inflammatory and thrombotic ocular disturbances. *Amer. J. Ophthal.* **38**: 84-87 (July) 1954.
4. HOPEN, J. M. The use of intramuscular trypsin in extra-ocular trauma. *J. Albert Einstein Med. Center* **3**: 39-41 (November) 1954.
5. HOPEN, J. M. AND CAMPANGA, F. N. Use of intramuscular trypsin in acute inflammatory and thrombotic ocular disturbances. A preliminary report. *J. Philadelphia General Hospital* **5**: 20-25 (March) 1954.
6. INNERFIELD, J. Trypsin given intramuscularly in chronic recurrent thrombophlebitis. *J.A.M.A.* **156**: 1056-1058 (November 13) 1954.
7. INNERFIELD, J. Intramuscular trypsin-in-oil in acute thrombophlebitis, diabetic cellulitis and leg ulcers. *Surgery* **36**: 1090-1100 (December) 1954.
8. INNERFIELD, J., ANGRIST, A. AND RUGGIERE, W. Intravenous trypsin: its effects upon intravascular thrombi and the acute inflammatory reaction. *Surgical Forum, Proceedings of the Form Sessions of the Thirty-Eighth Clinical Congress of the American College of Surgeons*, New York City, September, 1952, W. B. Saunders Company, Philadelphia and London, 1953, p. 526-530.
9. INNERFIELD, J., ANGRIST, A. AND SCHWARZ, A. Parenteral administration of trypsin. Clinical effect in 538 patients. *J.A.M.A.* **152**: 597-605 (June 13) 1953.
10. INNERFIELD, J., SCHWARZ, A. W. AND ANGRIST, A. Fibrinolytic and anticoagulant effects of intravenous crystalline trypsin. *Bull. N. Y. Acad. Med.* **28**: 537 (August) 1952.
11. MILLER, J. M., SURMONTE, J. A., GINSBERG, M. AND ABLONDI, F. B. Clinical experience with the injection of streptokinase intramuscularly in the treatment of infection and edema. *Maryland State Med. J.* **4**: 188-193 (April) 1955.

THE HERNIA PROBLEM¹

PANEL DISCUSSION

MODERATOR: HARVEY B. STONE, M.D.

PANEL MEMBERS: BARRY J. ANSON, Ph.D.

WETHERBEE FORT, M.D.

LEO M. ZIMMERMAN, M.D.

DR. AMOS R. KOONTZ, M.D., *presiding*

DR. KOONTZ: This meeting tonight, as you know, is a Panel on Hernia, which is a very much neglected subject in my opinion, and I think everybody who has much experience with it realizes that.

On account of the interest I have shown in Hernia for a good many years, you might think this meeting was planned by me, but it wasn't. The subject was chosen before I was elected President of the Society. I did have something to do, however, with picking the speakers and I'd like to introduce them.

The one on my immediate right, as you know, is Dr. Wetherbee Fort, one of our leading Internists, a Past President of this Society who is very well qualified to speak on Hernia from the medical point of view, although he did get a little razzing from the surgeons tonight with regard to it.

The next one is the speaker who I am especially delighted to introduce to you, because he has been a lifelong friend of mine, although as you can see he is a much younger man. He was in college when I was in Medical School and for two summers we both had jobs in the U. S. Bureau of Fisheries Laboratory at Fairport, Iowa, and he lived at nearby Muscatine. He was very kind to me, kind enough to take me into his home every weekend for those two summers, a perfectly delightful home, and introduced me to his charming circle of friends in Muscatine,

which made those two summers two of the high spots in my life. But besides that Dr. Anson is certainly one of our leading anatomists, Professor of Anatomy at Northwestern University and has probably done more in the way of clinical anatomy than any other man alive today, because you are all familiar with his works, the beautiful drawings he has put out in many journals; and we have him here to tell us all about the Anatomy of Hernia.

Now, our Moderator, Dr. Stone does not need an introduction to you because Dr. Stone has had every honor the profession can give him. He has been president of the American Surgical Association, president of the Southern Surgical Association, which are certainly two of the greatest honors that can ever come to any surgeon. He has had many, many other honors, which I won't enumerate and if I said very much more about him he would probably give me the devil when this meeting is over, so I'm not going to say anything further. I know a little thing I was going to tell about him, but I'm afraid to do it.

Now, the next is Dr. Leo M. Zimmerman, professor of Surgery, in the Chicago Medical College, who was very kind to me once when he discussed one of my papers and didn't tear me apart like other people have done on occasions when they discussed my papers. He and Dr. Anson are the co-authors of one of the new books on Hernia, called "Anatomy and Surgery of Hernia" which is one of the best books on Hernia that has ever been published. So we are

¹ Presented before the Baltimore City Medical Society on Friday, January 7, 1955, at the Medical and Chirurgical Faculty Building, 1211 Cathedral Street, Baltimore 1, Maryland.

honored by having these two distinguished visitors from Chicago here tonight.

So that is all I have to say, and I'll turn the meeting over to Dr. Harvey B. Stone now.

DR. STONE: Mr. President, ladies and gentlemen, I am sure you will understand my feelings after the comments of Dr. Amos Koontz about myself, and I must say that I didn't realize whom he was talking about till he got near the end of that commendatory address.

It is a great pleasure to serve as the Moderator of this Panel, and to have this distinguished group of speakers on the Panel. I think there may be a question in the minds of a good many people here tonight, why this subject was picked out.

The hernia problem certainly is not new, and we are accustomed in meetings of this sort to have attention focused, perhaps too much focused, on very new and dramatic and striking affairs; but I think it is well to stop our concern with the things of the recent moment and to give some thought to some of the problems which are very old and are still problems.

Now Hernia is one of those things. Hernia is one of the common ailments of the human race, and it isn't limited to the human race. I have seen dogs with Hernia, so that blaming it on the erect posture is not in itself a sufficient explanation. Every doctor in General Practice sees many patients with Hernia.

Every doctor, whether he be a General Practitioner or an Examiner for an Insurance Company, an Army Surgeon examining recruits or anybody who makes a good, careful, complete physical examination, always examines for the possibility of Hernia. Doctors are asked questions about Hernia continually; the papers are full of advertisements about methods of treating Hernia, so that it is a problem of widespread, current and persistent interest.

Now, what are some of the questions that are asked? Well, doctors are asked, "Should I be operated on, or Should I try some non-operative treatment of Hernia?" "Is the operation apt to be successful if it is performed?" "What age

of a patient is prohibitive of operative treatment, if any?" "What kind of Hernias are urgently necessary to be operated on?" "What general conditions of the patient may inhibit or prohibit the performance of an operation?" "What factors lead to the development of a Hernia?" "What anatomical factor, what incident of direct trauma, what does constant strain of physical exertion, persistent cough, how much do they play in the development of Hernias?" and finally, "How good is the treatment of Hernia by operation, what can one expect, what sort of result can one get if the Hernia is operated on?"

All of these are moot questions, questions that commonly concern all of us, so that personally I think the choice of this subject was a very good one.

The plan of this program, as you probably are aware, will be for the members of the Panel, each to present some phase of the topic that he is particularly concerned with, then at the end of the formal statement by the Panel members the audience is invited to present questions. These will be turned over to various members of the Panel to answer as best they may. You will find, I think, in your places, cards for the purpose of writing such questions and we only ask they be written legibly and that they be sent up to the desk at the end of the formal presentation.

Now, it is my very great pleasure and honor to introduce personally Dr. Barry J. Anson, who will speak from the standpoint of the Anatomist.

DR. ANSON: The anatomist whose endeavors warrant the surgeon's commendation is fortunate indeed. Doubly fortunate is one invited to take part in a program of this distinguished Society. His pleasure and satisfaction reach millennial heights when the Society's president is a warm, long-term friend whose contribution to the subject of the evening's program is recognized as definitive and meritorious wherever modern surgery is practiced. It is a special privilege to appear on the program which introduces Dr. Amos Koontz's return as president.

THE PROBLEM OF HERNIA¹

Anatomical Considerations

BARRY J. ANSON, Ph.D.²

In order to meet the exacting requirements of modern surgery, amplification of conventional textbook accounts is needed for every region of the human body. Nowhere is such modification of concept more essential than in the case of abdominal anatomy—which depends, quite simply, upon a critical study of actual specimens.

For a number of reasons, some of which will be reviewed hereinafter, the abdominopelvic wall fails locally as a rampart against pressure from within. As a consequence, herniation is possible at the following points: the umbilicus, where congenital predisposition to hernia may be owing to a weak umbilical scar; at the level of the semilunar line, where the aponeurotic fibers of the parietal layers change course in relation to the rectus muscle; in any area adjacent thereto where fascia replaces fleshy fibers of the internal oblique and transverse abdominal muscles; in the triangular area of Hesselbach, just above the inguinal ligament and medial to the inferior epigastric artery and vein; in the zone to the outer aspect of the latter vessels, at the site of the abdominal inguinal ring; at a point just inferior to the ring and through the canal situated medial to the femoral vein; at the even smaller orifice, the obturator canal, which transmits blood vessels and nerves to the medial side of the thigh; any zone of weakness in the diaphragmatic musculature of the pelvis through which may occur an urethrocele or comparable visceral protrusion.

The anatomical conditions which permit herniation of the specific types just enumerated may be grouped in two genera: those which represent an association with some wholly natural route of passage of vessels, or visceral

duct, or both to some more superficial position; and those which bear no relationship to such transmission. Obviously, the umbilicus and the canals (inguinal, femoral and obturator) belong in the former class, whereas the areas of the semilunar line, aberrant parietal clefts unassociated with these lineae and the triangular space of Hesselbach would be catalogued in the latter group.

Of all of these sites of possible herniation, only that of the indirect inguinal offers a ready-made route of egress. In its descent, in oblique course, from the abdominal inguinal ring to the intercrural fault in the aponeurosis of the external oblique layer, the hernia becomes related to the abdominal strata in predictable succession, and covered by them distally; none is ruptured; all are dilated, but in no other way are they anatomically disturbed.

When these layers are studied critically in a large number of specimens, it is found that each of them, in a surprisingly large percentage of cases, departs strikingly from the so-called anatomic "normal," and in such a way as to offer less than expected resistance to herniation. This statement applies not merely to the sharply localized indirect inguinal hernia; rather, it bears application, as well, to herniae of less restricted sort (for example, to those of the ventral variety).

In the case of the external oblique, the aponeurotic fault (the medial extremity of which forms the subcutaneous inguinal ring) is frequently an elongate cleft, extending obliquely upward and lateralward to a point near the anterior superior spine of the ilium (at the lateral attachment of the inguinal ligament). Such length, coupled with the condition of regular thinness of the overlying fascia, spells parietal weakness.

Comparable weakness in the internal oblique and the transverse abdominal layers may be

¹ An abstract of the presentation (illustrated by lantern slides based upon original drawings).

² Professor of Anatomy, Northwestern University Medical School, Chicago, Illinois.

evidenced in any one of the following ways, or in the combination thereof: disposition of the muscle-fibers in the form of bands, the latter placed side-by-side with narrow intervening stripes of fascia; grouping of all the fleshy fibers into several broad plaques, the latter separated by equally wide fields devoid of muscle; limitation of the musculature (in the inguinal part of the layer) to a lateral zone close to the anterior superior iliac spines. Each of these has the look of aberrancy when compared with classical pictures of these layers, in which they are depicted as strata composed of evenly distributed musculature, whose inferomedial fascicles continue to a pubic insertion as a "conjoined tendon" (the aponeurotic inguinal falx of modern terminology).

So common are these and other comparable departures from the accepted "norm" that repetition of a plea seems, on morphological grounds, to be warranted here: to fit the technique of repair to the texture and pattern of the anatomic fabric, rather than to distort structure through adherence to inappropriate, albeit convenient, scheme of herniorraphy.

DR. STONE: I want to express to Dr. Anson the appreciation of myself and I am sure of every one else for a talk that was extremely practical and which illustrates how much real help an anatomist can be to a surgeon in practical matters.

The next speaker is Dr. Wetherbee Fort, who will present the views of a medical man on this Panel.

HERNIA: WHAT IT MAKES

WETHERBEE FORT, M.D.

The hernia problem, as listed on the card which has been conveniently circulated, and the question in particular for me to answer could easily be done by simply stating, "the hernia makes trouble for the patient and a headache for the physician."

In the short time allotted one could hardly present all of the many physiological, emotional intestinal and circulatory conditions that arise from or appear in the course of a long-standing hernia, wherever that hernia may be. My remarks, I am sure, will be "old hat" to everyone in this room, but certainly when the subject as a whole is reviewed it may help.

To the physician, in most any branch of medicine, a hernia either one easy to be seen or occult, palpable or not, can pose as a very difficult diagnostic problem.

Grossly, a listing of occult or unseen hernias appears to me to be the following:

Diaphragmatic, the most commonly seen of this type is hiatus esophageal hernia

Ventral; hernias of the linea alba
Umbilical, and,
Occasionally the femoral hernia.

The intra-abdominal conditions, such as volvulus, intussusception, strangulation due to stricture, acquired or congenital, could probably be mentioned, but are not strictly hernias, so will not be discussed.

The easily seen and usually easy to palpate hernias are:

Inguinal
Femoral
Traumatic and post-operative

Hernias are not a negligible matter and should be sought for and, when diagnosed, properly treated without delay.

How many useless EKG's and chest pictures have been taken, long periods of bed rest instituted; long series of office calls for treatment of possible gastric or duodenal ulcer and coronary disease, when a more careful detailed history and x-ray studies, with a special notation to the

x-ray man that a hiatus diaphragmatic, inguinal or femoral hernia is suspected may be the complete answer to the patient's trouble. Think of the impact to the patient's morale and reduction in finances to find after months of treatment his neurosis was a poor diagnosis.

One or more hiatus areas in the linea alba are difficult to diagnose unless the opening can be felt or the characteristic sharp pain of impinging of omentum or gut in the opening would make this diagnosis a possibility. In epigastric pain, ventral hernia should be thought of and carefully felt for.

The umbilical hernia, if looked for, in general, should not prove difficult.

The femoral hernia is probably the most difficult to suspect, which causes it too frequently to be overlooked and, being the most likely of all hernias to strangulate, the possibility that such a condition may exist should never be passed up in any thorough physical examination.

At this point, let us stop to consider the post-operative hernia, small or large in size and, along with this, the postpartum hernia which may be small or very large even to the point of complete separation of the rectus muscle, a condition known as diastasis of the linea alba. Many of those seen have been repaired one or more times. In most of these cases the patient becomes greatly disturbed, apprehensive of recurrence and skeptical of cure. The patients are as much aware of this as we are and will argue in favor of support rather than another operation.

Knowing as we do the difficulties that can ensue, such as flatulence, obesity due to lack of exercise, constipation, impaired circulation in their immediate domain and lower extremities and, in many instances, incapacitating the victim from earning a living if the condition is left uncorrected. You may persuade them but I doubt if you ever convince them. This is a very important point.

Most all inguinal hernias are readily seen and easy to diagnose, yet the search must go on in every physical examination for the very early

breakdown in the canals which, when found, means early repair and less likelihood of recurrence.

DIAGNOSIS

Diaphragmatic Hernia

Due to a greater awareness to such a condition more of this type of hernia are being found because of a more careful history with special reference to the time when pain is usually present. Most hiatus hernias are more painful at night. Competent x-ray examination is of utmost importance, but bear in mind that severe straining and too heavy pressure by the examiner's hand may produce a dilation of the ampula of the esophagus and this, in turn, be called incorrectly a small hiatus or diaphragmatic hernia. Chest x-ray and gall bladder visualization will rule out pathology in these areas.

Ventral and Umbilical

Not usually difficult if looked for and no physical examination is complete without searching well for them. If to the examiner's finger the opening in the inguinal ring seems sufficiently large to cause possible future trouble, then it would appear to me at this point that a surgical consultation is indicated. This does not always mean operation. Most patients are sensible and, if told the truth from the start, will willingly cooperate. Certainly they will understand that if operation is indicated it means a less severe operation, less change of recurrence and less likelihood of severe complications.

Almost all hernias cease to be medical as soon as they are diagnosed, which means they immediately become a combined medical and surgical procedure. I think we will all agree that it is team work that counts, the surgeon needs the advice of the medical man and vice versa, when the patient's welfare is at stake. Almost as with cancer, early recognition and correction of hernia by surgery is the ideal treatment. Slight delays are at times necessary to ready the patient for operation. Prolonged delays of months or

even years increase the possibility of the hernia becoming larger and greatly enhances the chance of strangulation. Certainly this is true of the femoral hernia and the inguinal hernia with a small ring not easily reducible.

Age, sex, and poor health, if not extreme, are no barriers to surgery.

Spontaneous healing of hernias in infants or young children is rare. Old age, with its many and varied complications might, at times, make one pause before operating. On the other hand, with improved pre- and post-operative care in handling of patients, one has little to fear in advising surgery in the aged, especially the repair of a hernia.

Most surgeons are apt to feel that all hernias should be operated upon as soon as the diagnosis has been made. The idea is perfect but, at times, unwise. The family physician is the one to give the green light. He is the one who best understands the patient's emotional and financial background. He is the one qualified to explain the details and answer the questions the patient is usually too afraid to ask the surgeon. The answers, if correct, give the patient a more quiet and peaceful approach to the coming operation. It is a wise surgeon who works in double harness, and certainly a few weeks could not do any harm unless the hernia is strangulated.

TREATMENT

The first step in treatment of inguinal hernia is early diagnosis, which should be followed by prompt, surgical correction. Neglect of proper treatment in earlier years can only lead to medical and mechanical difficulties in later years, when the operation may be a touch-and-go problem, and the chances of recurrence far greater. Early surgery removes the possibility of strangulation, a dreaded complication. Many patients are saved years of invalidism and discomfort by an early procedure.

Diaphragmatic hernia producing sufficiently

annoying symptoms should be repaired as early as possible after discovery, provided the general health of the patient warrants it.

Femoral hernias are a must for surgical interference. The danger of strangulation is far too great. Trusses are unsafe and usually unsound, as any physician will agree, if the problem is thought through thoroughly. Most are ill-fitting and do more harm than good in the great majority of cases. How many physicians ever examine a truss on the patient after it has been ordered? Very few. That is part of your answer right there in regard to trusses. Occasionally a well-fitted truss can be used as an interval treatment for a patient who has to postpone his operation for a few months.

Contraindications for surgery are few:

- 1) Cardio-renal-vascular conditions which are severe.
- 2) Skin infection at the site of operation, and,
- 3) Patient's refusal to have the operation performed.

In closing, the medical man should be the top man on the totem pole before any operation, and especially those where the health and welfare of the patient is concerned. Perhaps the physician, the internist, the obstetrician, and even the psychiatrist, have been too casual in the past in advising surgical correction of hernias, but let us not be too hasty in passing judgment when on our side we have had frequent pulmonary emboli, prostatic complications and early recurrences staring us in the face. Times have changed. Better procedures are at hand to place the patient in a more satisfactory condition for operation and surgical technique has improved also, which assures of fewer recurrences.

The familiar quotation of "Early to bed, Early to rise, Makes a man healthy, wealthy and wise," could be altered just a little to comply with the problem we are discussing tonight. Let's say, "Early diagnosis from what he endured, Makes a man healthy, wealthy and cured."

DR. STONE: Thank you very much, Dr. Fort. That was a bully talk and I am sure you all enjoyed it.

The next speaker on the Panel is Dr. Leo M. Zimmerman, who will give the surgeon's point of view.

HERNIA: WHAT IT TAKES

LEO M. ZIMMERMAN, M.D.

Dr. Stone, members of the Baltimore Medical Society, I would like to take thirty seconds to express my very great gratification at being invited to appear on this Panel. To come to Baltimore to talk on Hernia, is indeed "Carrying Coals to Newcastle," as one recalls that the virtual father of modern hernial surgery was Dr. Halsted, of this city, and since his time there have been an unending succession of outstanding hernial surgeons in Baltimore.

One need only mention the two who are here today, Dr. Harvey Stone, long has been a student, author and teacher in the field of Herniology, and his article in the Loose Leaf System of Surgery, is one of the very best discussions on Hernia I have ever read. And of course, your president, Dr. Amos Koontz, has worked indefatigably in the field of Hernia, and certainly has contributed enormously to our knowledge of the subject.

In the short time allotted to me to discuss the surgical aspect of Hernia, I shall touch only on two points. To reiterate what was the essence of Dr. Wetherbee Fort's remarks, namely, the importance of early operation. When I say early operation, I don't mean before the patient has been brought into suitable physical condition by his attending physician, but I do mean early operation in terms of the years that are often allowed to elapse between the time the hernia has been discovered and the time the patient eventually comes to the surgeon for treatment.

I would venture to state there are probably physicians in this audience now, who have hernias that they have had for a number of

years and who, in the backs of their minds are thinking that some day maybe they are going to do something about them. But, it is awfully easy to get into the habit of going along with them, with a truss or without a truss, and to lose count of the years that have gone by. What might have been an easy problem in a young person with normal tissues and a small defect, eventually comes to us as an overwhelmingly difficult problem, often complicated by inter-current disease, extreme obesity, severe cardio-respiratory renal disease, hypertension and all manner of other complications, including, Dr. Fort, that prostate that has developed in the meantime, and possibly also that predisposition to pulmonary embolus.

I think the situation that confronts the Pope's condition at the moment, is indicative of what is happening the world over. Our populations are living to a riper old age, more and more people are surviving to become old. They carry their hernias as they carry their so-called silent gallstones, or their ulcers, which can be palliated from one exacerbation to another; and then when they are beyond the time of optimal surgery, they either become intolerant of the symptoms of the lesion which they have, or they have developed complications which urgently demand operation; and then the surgeon is asked to face that problem.

The question often comes up, "What is the incidence of recurrence following operation?" I think that is not a fair question. If the question were postulated as to the incidence of recurrence if all patients were operated upon at the optimal

time, one could give one answer; but if one has to answer the question as to the incidence following operation in all patients as they come to you, that is another problem.

The prudent housewife who discovers a hole in the toe of her husband's sock knows very well that that is the time that it must be repaired, and it goes into her darning basket before it goes back into the sock drawer. A hernia is quite as much a mechanical problem as a hole in the sock and unless it is repaired before the entire toe is protruded through the hole, it reaches a place where it also pretty much can't be repaired.

Then, there is the question of strangulation. In most of the large series of intestinal obstruction cases that have been reported, at least fifty per cent of the cases (the highest single cause of intestinal obstruction) is still strangulation of external hernia. Now, in every series of cases of intestinal obstruction there is a very considerable mortality. It used to be quite constantly around 50 per cent. In recent years it has gone down and some clinics have reported twenty per cent, and some as low as twelve per cent mortality. But nevertheless, there is a considerable death rate associated with intestinal obstruction. More than half of these cases are due to external strangulated hernias or strangulation of external hernias, and if those hernias were repaired in time, we would go a long way toward eliminating the mortality from bowel obstruction.

The second point I wish to touch on is, "What makes hernias recur, if they are operated on, and what may a patient expect from adequate surgery?" If I were asked, "What is the most important factor in recurrence, following operation for hernia," I think I would be hard-put to decide whether it is the one we have been talking about, namely, neglect and the time of operation, or whether it is poorly selected operative method that is most important. Certainly, these two, in my opinion, constitute the outstandingly important reasons for failure in surgery for ordinary types of hernia.

To limit our discussion for the time being to the inguinal variety which is by all odds the most frequent, I think I have satisfied myself beyond any doubt in my own mind, that the so-called standard operations for the repair of hernia are not logical for the condition in which they are done.

In the first place, I don't think that one can intelligently undertake the repair of the hernia, as Dr. Anson intimated, unless he has clearly in mind the defect that he is attempting to correct. Which means that one must differentiate most sharply between the two common varieties of inguinal hernia.

An indirect inguinal hernia, in its uncomplicated form, is a hernia within the spermatic cord. It is a persistence of the embryonic processus vaginalis testis. It may occur in the strongest and best muscled type of abdomen. When it first develops in the infant or child, the only pathological finding present is this persistent processus vaginalis testis, this peritoneal process. As time goes on with hernial contents pistoning in and out of that sac, the abdominal inguinal ring which is that funnel-shaped hiatus through the transversus aponeurosis that the cord must penetrate in beginning its exit through the abdominal wall, that ring becomes dilated.

With those two exceptions, the pre-formed sac and the dilated abdominal ring, the anatomy in indirect hernia in its uncomplicated form is no different from the anatomy of the person who does not have the hernia.

Now, if we can accept that postulate, then it seems to me the conclusion so far as operative repair is concerned must be obvious; to reconstruct that abdomen, one should first remove that sac and, second, narrow that ring to its normal size.

The operations which we have been taught, which are frequently done, which begin with the so-called Bassini Step, and which consist of plicating one, two, three or four layers of the abdominal wall posterior to the cord, not only are

doing a lot of surgery which has no pertinence whatever to the defect which I described, but they are definitely detrimental and permanently injurious to the integrity of the inguinal canal.

The integrity of the canal depends upon two things: The obliquity of the canal, so that as the cord leaves the abdomen, instead of going out at right angles to the abdominal wall and in line with the intra-abdominal force, the passage is oblique and valvular, just as the passage of the ureter into the bladder is oblique and valvular; so that when one contracts the bladder musculature in the act of micturition, that intramural portion of the ureter is compressed and the urine goes out through the urethra rather than back up through the ureters to the kidney.

To sacrifice wantonly and without purpose that oblique type of inguinal canal and to transform it into a very short, straight one that comes out at right angles to the abdominal wall and directly in line with the interabdominal force, it seems to me is to deprive that patient permanently of a most efficient physiological mechanism.

The other factor responsible for the integrity of the canal is the sphincteric action of the internal oblique muscle which has the capacity, when it contracts, to come down over the internal ring (the abdominal inguinal ring), and to approximate itself to the inguinal ligament and to so narrow the space between the edge of the muscle and the inguinal ligament. If that muscle is sutured with unyielding sutures, drawn out of the line of its fibers, or fastened down to some rigid structure, whether it be the inguinal ligament or Cooper's ligament, or anything else, its capacity to function as a living sphincter is certainly impaired.

The direct inguinal hernia is an entirely different disease, as I think Dr. Anson has so beautifully explained to us, as far as its genesis is concerned. It has to do entirely with the pattern of the muscular investment of the lower portion of the abdomen. The abdomen in which the muscle fibers come right down to the pubis as in

the first section which Dr. Anson showed you, I would say never develops a direct inguinal hernia, irrespective of how many years such a person does the heaviest kind of labor. But that abdomen in which there are no internal oblique or transversus abdominus fibers below the level of the anterior superior spine, or below the level of the abdominal inguinal ring, will develop a direct inguinal hernia at relatively young ages irrespective of how sedentary an occupation the patient follows.

Now, the problem there is entirely different. It is as different as repairing a ripped seam in a new garment as against patching the seat of a pair of pants when the cloth has become thin and threadbare. To try to close that hole by sewing together the thinned out fibers around the defect is futile. And again, to come back to our prudent housewife, she knows that unless one puts in a good sized patch brought in immediate opposition with the material she is trying to reinforce, she will get nowhere. Those operations which try to close that defect, which is triangular in shape, by sewing together two sides of the triangle, it seems to me are bound to fail in a very large percentage of cases. The larger the defect, the more tension is required to approximate those structures and tension is absolutely inimical to the permanent healing of that suture line.

Well, there are many other things which speak against the success of those repairs. It seems to me if we accept again the postulate that a direct hernia is a break through the posterial wall of the canal because it lacks support from overlying muscle or aponeurosis, the two requirements for an adequate repair are, first, to close that hole in the posterior wall in the transversus layer, and, secondly, to so reinforce that posterior wall with a fascial plastic procedure, so that it will be strong enough permanently to withstand the abdominal pressure. Any operation which will accomplish that is a good operation. I think any operation which accomplishes less is inadequate.

These then, are the two principle reasons for

failure in surgery for hernia. Delay beyond the optimal time for surgery, and the improper selection of an adequate operative measure which is specifically directed toward the defect which the surgeon is trying to repair.

DR. STONE: Thank you very much, Dr. Zimmerman. We will declare a two-minute recess and ask those who have questions to present, to bring them up, please.

DR. STONE: Dr. Anson seems to be more fortunate, perhaps, than the other members of the Panel. He has the fewest questions, maybe because this audience isn't capable of asking an Anatomist intelligent questions. But in any event, he has the fewest in number so I'm going to ask him to lead off in answering. If you will read the question, Dr. Anson, and then answer it?

QUESTION AND ANSWER PERIOD

DR. ANSON: If we have in mind the typical kind of internal oblique muscle, then the so-called "conjoined tendon" is an artifact; it appears merely as the upper (superior) boundary of a small cleft which occurs between the lowermost fibers of the muscle proper (coursing toward the linea alba) and those which descend upon the spermatic cord as the cremasteric fascicles. On deeper level fibers of the transverse abdominal muscle are joined, or fused to, those fibers of the internal oblique which bound the cleft superiorly. When the cleft is artificially widened by instruments, the conjoined, upper portion becomes more prominent; it is aponeurotic (at least partially) in texture, falciform in outline and inguinal in position—hence the term, the aponeurotic inguinal falx.

It is important to record that in many instances the internal oblique, in its inguinal portion, is almost devoid of muscular or strong aponeurotic fibers. Then there exists no thickening cranial to the spermatic cord which could qualify as a "conjoined tendon." An inguinal wall of such thin, fascial constituency is wholly unsuitable for use in repair by the standard methods.

Q. What is the transversalis fascia, and is it a part of the transversus abdominis muscle?

DR. ANSON: The transversalis fascia is the internal investing fascia of the transverse abdominal muscle; in most instances it is a strong layer, encountered as soon as the muscle fascicles have been removed. The transversalis fascia

would be followed (as the dissection is carried inward), by the retroperitoneal connective tissue; the latter, in turn, would be followed by the peritoneum.

Cases are frequently encountered in which the muscular fascicles of the transverse abdominal layers are sparse and thin. Unfortunately for the patient with recurrent herniation, the internal oblique layer is likely to be equally weak. Then restoration of normal parietal strength must depend upon the employment of fascial graft or metallic mesh.

DR. ZIMMERMAN: May I add a word to the answer to this last question? I want to plead guilty for the surgeons generally for complicating this question of what is the transversalis fascia. Dr. Anson has just told you what it is. Unfortunately when the surgeons use the term, very often we use it to describe something else. Would you please put that last slide on that you had? The surgeon uses the term transversalis fascia to include the entire complex of lamina that Dr. Anson was just describing to you, and this structure here which you see is not only, the posterior investing fascia, but the entire aponeurosis with its anterior investing fascia, its true aponeurotic fibers and its posterior investing fascia. This is what the surgeon picks up in sutures or cuts or deals with, and he calls it transversalis fascia. I think it is unfortunate, it is a most confusing thing to have two structures called by the

same name, but I say we, as surgeons have to plead guilty to mixing up that issue.

Q. DR. STONE: Dr. Fort, do you wish to comment on any of this?

DR. FORT: You're way over my head.

DR. STONE: In that case I'll ask you to take the questions that are aimed at you specifically.

DR. FORT: This is the toughest part of the whole thing.

Q. If a patient states he thinks he has a hernia where examination is negative, what do you tell him, what do you advise?

DR. FORT: Well, I think the first part is rather important. I think you have to consider first the honesty of your patient, and I mean this, I think that there are such things and I learned this at supper, it is one of the things they have been rubbing in to me, that a man can come in and say, Doctor, I have a hernia, and you can examine him and you can't find it. What do you tell him. Well, you say, at this moment I don't believe you present the problem of a hernia, at least I can't find it. I would not treat him like Dr. Zimmerman thought. I'd keep it out of the drawer and get him to do some hard work, move a piano around and tell him, too, that if he could present himself with this hernia where I could see it, I'd be in a better position to tell him whether he had it or didn't.

What I am getting at is that there are times when people not for evasive reasons of services or work or job, can have a hernia and you, the examining physician, whether physician or the surgeon will not be able to find it and for that reason I think you'd be unwise to say, no, you don't have a hernia. I think it is wiser to say, well, at this moment I can't find the hernia and if you can't present it with the bulk, then I advise, come back and see me. Then, of course, we will advise him to have it taken care of right away. I hope that answers that one.

Q. Does a significant number of hernias occur as early symptoms of large bowel malignancy as has been claimed; if so, should work-up of hernias include barium enema?

DR. FORT: To tell you frankly, I never knew it had been claimed. I presume that what was meant, would obstruction of the bowel and damming back of fecal material which eventually probably might in some way produce a hernia. I think this could be answered probably much better by one of the surgeons than I.

I would say it would have very little significance because by that time I don't think they are going to worry whether they have got a hernia or whether they haven't got a hernia. Then the question, the barium enemas. Well, I think that is a good idea and should be done in questionable cases of obstruction, where the hernia particularly the femoral hernia, where a loop of bowel may be caught, or in some of these vague types of inguinal hernias, and of course in other types of intestinal obstructions, inner suspensions and what have you. But I do not think an outstanding inguinal hernia, per se, which is reducible, that you can put back and forth, should go ahead and have a routine barium enema. You've got to be thinking of the patient's finances because after all, the surgeon is going to get hold of it sooner or later and there won't be much left then, probably.

Q. How does one examine a patient for femoral hernia?

DR. FORT: Well, most of these occur in ladies and I think that, at least I was taught. I haven't seen a femoral hernia for a long time, so maybe I am wrong. However, I think there is no way that I know that you can examine for a femoral hernia except to get the patient to stand up, properly draped, of course, undressed but properly draped, and poke around and see what you can find with your fingers and get them to cough and sneeze and strain. I don't know if there is anything else these gentlemen would like to add to it. All I can say is it should be done. I'm speaking now about the examination of the patient in erect position, standing up, and I would examine just as I say, with the other procedure with the manual manipulation and coughing, etc. I know no other answer to that whatsoever.

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1. Boger, W. P.; Strickland, C. S.; and Gylfe, J. M.: Antibiot. Med. & Clin. Ther. 3:378 (Nov.) 1956.

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DR. STONE: Would you like to comment on that, Dr. Zimmerman?

DR. ZIMMERMAN: Femoral hernia may be difficult to recognize if one has an obese patient and a small hernia. It is a problem of detecting a swelling that may not be prominent in the presence of a lot of subcutaneous tissue. There are no tricks to it. Most of the femoral hernias, or, at least, many of them under those circumstances are incarcerated so they do not change much in volume with straining or coughing, and it is a matter of finding a swelling that isn't too noticeable on very superficial examination. Of course, if the hernia is not incarcerated so that it expands with straining, it becomes an easier problem but so often it doesn't, it is a fixed mass and not too prominent in the presence of too much fat. I don't believe it is an easy diagnosis to make in very many cases.

DR. FORT: I quite agree, it is not easy.

DR. ZIMMERMAN: I want to go back to steal one of Dr. Fort's questions again, the one about the barium enema. I think that is a very, very important question. I learned the answer to that from one of my residents. He was a Mexican boy in my service in the Cook County Hospital. He told me one day, "We have a gastric carcinoma. I booked it for tomorrow morning." I said, "What are the symptoms, what is the duration?" He said, "There was no history at all." I said, "How did you find it?" He said, "Well, a man came in with a hernia and I did a barium meal and I found it." I said, "Why in the world do you do a barium meal on a person with hernia?" He said, "In my experience, when people have had hernias for a long time and they suddenly decide to have them operated upon, very often they are having vague symptoms that they can't quite put their fingers on, and because they can see the hernia they ascribe their symptoms to that. I have already picked up three asymptomatic carcinomas by doing these barium studies in people with long-standing hernias."

I want to confess, too, that I have stubbed my own toe very badly on this problem not very

long ago. The patient had a hernia for a long time, finally decided to have it operated upon and following the operation he complained of some abdominal symptoms. Unfortunately, while on a vacation to Florida his carcinoma of the colon became obstructed and my name in that family is definitely mud. My questions are largely technical and I think they can be answered very briefly.

Q. Does an enlarged external ring found on examination necessarily indicate a hernia?

DR. ZIMMERMAN: It necessarily does not indicate a hernia. A hernia is present before the level of the external ring is reached. A person either has an indirect hernia which comes through the abdominal inguinal ring and then protrudes to the external ring or he has a direct inguinal hernia which may or may not protrude through the external ring, but the presence of a dilated external ring to my mind not only does not indicate the presence of a hernia but I think does not indicate a predisposition to a hernia. I think the tendency in industrial examination is to refuse appointment to people because they have a so-called lax external ring, is not based on an accurate analysis of what is or is not a hernia.

DR. FORT: May I interrupt to ask Dr. Zimmerman, in regard to barium enema, are you inferring there is some connection between the hernia and the carcinoma?

DR. ZIMMERMAN: Not at all. I am clearly indicating it is common human practice when symptoms arise that are not otherwise explained, to blame it on something "I ate" or something that is obvious, and if a person has hernia he may come for surgery because he has developed some vague symptoms that he can't ascribe to anything else and so he comes in complaining of his hernia. That is what brings him into surgery after years of carrying that hernia.

Q. In the strangulated direct inguinal hernia, is a constricting ring at the internal os or at the external ring?

DR. ZIMMERMAN: It is usually at the internal

ring. It may be both, but very often one finds a strangulation within the canal itself and the strangulated hernia may not ever protrude beyond the external ring. I usually expect to find the constricting ring at the level of the abdominal inguinal ring.

Q. How dilated does the inguinal ring have to be before it is considered best to operate?

DR. ZIMMERMAN: That I answered when I answered the first question. One cannot palpate the internal ring by invaginating the scrotal skin and going up the inch-and-a-half of the inguinal canal and then palpating the internal ring. It can't be done. So that person is feeling the external ring, and I do not consider the size of the subcutaneous ring an indication for surgery unless there is other evidence of herniation either of the indirect or direct nature.

Q. Is it safe to carry out bilateral inguinal hernioplasty?

DR. ZIMMERMAN: Definitely safe. I do it routinely and do bilateral direct herniorrhaphies without any hesitancy whatever. So long as the repair is not predicated upon tension, then I see no contraindication to doing two sides at the same time.

Q. This next question may be a little controversial. What are the indications for a Cooper's ligament repair?

DR. ZIMMERMAN: In my opinion, there is no cause for a Cooper's ligament repair of an inguinal hernia. I think the only cause for a Cooper's ligament repair is for the repair of a femoral hernia. Now I know there are many others who do not share my opinion, but I'll be willing to argue that with anybody at any time. At least, since it is my opinion that was asked, the answer is never.

Q. Here's a double-header. What place does the Halstead type of repair have today in the surgery of inguinal hernia?

DR. ZIMMERMAN: Again, if one is dealing with an indirect hernia consisting essentially of a pre-formed sac, and a moderately dilated internal ring, I see no cause whatever to do anything in

the rearranging of the architecture of the abdominal wall. I think nature's way is best. If it is a direct inguinal hernia, I think to attempt to correct it by bringing layers of the abdominal wall across that defect by suture is inadequate, so I do not see there is any cause in either the direct or indirect type of hernia for that type of repair.

Q. (Second part) What is your favorite suture?

DR. ZIMMERMAN: My favorite suture material is silk or any other non-irritating, non-absorbable suture material. Cotton is good; nylon is all right; wire is excellent. I don't think that I'd argue between them. I think they all have definite advantages to patients over catgut.

Q. There are two questions that have to do with mesh.

Q. What do I think of tantalum mesh, and how does stainless steel compare with tantalum mesh?

DR. ZIMMERMAN: I believe tantalum mesh has a real place in an extremely small percentage of hernias. I have never yet used tantalum mesh or stainless steel mesh in a primary inguinal hernia. I do not intend, so far as I can see at the present time ever to use mesh in the repair of a primary inguinal hernia. I have once been tempted but didn't use mesh in a recurrent inguinal hernia. I have never yet used tantalum or stainless steel for any inguinal hernia. Now, there are these huge post-operative ventral hernias that are absolutely inoperable unless one uses some prosthetic material like tantalum mesh, and under those circumstances I use it, and am profoundly thankful to use it. I think there is not much difference between stainless steel and tantalum and I have used them interchangeably, if the tantalum was not available and the stainless steel was, I have used the stainless steel. It may be that the tantalum weathers less and produces—I don't think it produces any less tissue reaction—it may weather less when it is buried in the tissues. I think I'll stop there, Dr. Stone, and let Dr. Fort finish.

Q. What of operation in patient in poor general condition with threatening type of hernia?

DR. FORT: I presume that means beginning or suspected strangulation, which, of course, would mean immediate operation. I don't know how to answer that except I think you would treat that patient with the same regard in the general physical build-up as you would with any type of surgery that had to be done. I think we are more and more aware of the fact today with the anesthesia as it is, and as I said, the pre and post-operative treatment, that we have less fear of surgery than we formerly had. If we are speaking of a suspected or a beginning incarcerated hernia, then I would certainly think I would advise operation after careful survey and not worry too much about what the heart can do, because it is amazing what the heart can stand even in those people who have had one or more coronaries. I would not be too afraid to go ahead. In the first place, you've got to anyway, so the best thing to do is to try to get the patient in as good physical condition as you possibly can.

Q. What is the proper attitude to take in regard to treating a symptomless hernia?

DR. FORT: Well, as I said before, I think many times it becomes quite a psychological problem. I think in handling this patient in your office, in the routine examination, you find this patient has a hernia and you say to him, well, now, this should be repaired. "Oh, well, heavens, Doctor, I've had that ten years, and it hasn't bothered me at all." Well then, I think it is up to you. I think you're in a position to sit down and try to explain the possibilities that can exist or can develop. I think it is up to you. If the medical man has the first crack at it, I don't believe if you present the picture as I try to tell you in my remarks, I somehow or another feel that the majority of them will go ahead and go along with you because you can readily assure them at this point that recurrences are fewer, and I haven't had much ill luck in having it work, and have the surgery performed.

Q. What about treatment of a several-time recurrent hernia with some pain and slight bulge?

DR. FORT: Well, I think that is very simple. Again, it may become a psychological problem, as I said before, you might have difficulty in persuading them, but I doubt you will ever convince them that it won't ever recur again. But I sort of have the feeling that surgery, today, and with the fewer recurrences I don't see what a man can do in a case like this except that you have a recurrent hernia with some pain, it is going to give you more trouble as time goes on and the possibility of greater complications, so I would certainly tell that fellow by all means to have it repaired again, this time probably pick out someone who you feel has had enough experience in hernia repair. I'm not critical of surgeons but I think many times, I see at some Baltimore hospital—it wasn't yesterday, but I knew some of the YN boys that were doing a lot of hernias and I'm just sort of—I'm not critical, I just think that maybe they ought to stand in their own field a bit and maybe there'd be less recurrences.

Q. When do you prescribe a truss?

DR. FORT: Well, like the mother who says to the child what not to do and the mother does it herself, I said in my remarks that I didn't think a truss should be used, except in the question of interval period between the time when the patient discovered the hernia and had the operation. I think that I'd have to back-track a little bit on that because if I were talking to the patient across the table, I think there are instances I don't, for a long-standing hernia, but I think in a moderately well person that there is any argument about what should be done, but what I'm leading up to is I still think that there are problems in medicine today that it may take a year, it may take six months, a year to get that patient from an aroused standpoint, you've got to sell him a bill of goods, and it may take that long time to do it. So I think that in that time certainly a truss should be worn. Now I am just as gilty as I am sure some of us are that I have

prescribed trusses and never seen them and I don't know whether they fit or don't fit, but when I have seen prior to three or four years later, that isn't recent, thank the Lord, but when I have seen the hernias stand outside and I couldn't tell the truss from the hernia. I mean trusses are tricky things and I think should be used with a great deal of caution and a great deal of care should be watched carefully and I think should only be used if and when you can't really and truly convince yourself that surgery is the thing to do, because, after all, the older we get, as Dr. Zimmerman pointed out about the question of prostate, you can get into terrific complications with that, and it can be very, very serious.

Q. What would you advise as to the time for surgery in the following case? A two-month old infant with a moderately large, complete, easily reducible inguinal hernia which is asymptomatic?

DR. FORT: Well, I think first I'd send him to a pediatrician, but frankly, Dr. Stone was discussing this at a luncheon we had before this meeting and I think Dr. Stone could answer that much better than I. But if I remember correctly, his statement was that age was no barrier of repair to a hernia.

DR. STONE: Are you putting words into my mouth, or are you telling me what I ought to say?

DR. FORT: I would never be guilty of the first, Sir, pardon me.

DR. STONE: Well, I think it is true that age, per se, is no barrier. It so happens that I once operated on a premature infant, a seven-months conception, with a strangulated inguinal hernia, on about the 24th hour of his life, and the case did perfectly well so that, that is an extreme instance of early age for hernia operations in my personal experience and based on my wide acquaintance with one case, I think it is safe to operate on them early.

Q. DR. ZIMMERMAN: I have inherited a couple of questions. Dr. Anson was asked to please describe the anatomy of the sliding hernia of the

secum or sigmoid in relation to the inguinal region?

So far as the parietes are concerned, sliding hernia is no different from ordinary hernia, the only thing that is different in sliding hernia involves the contents of the hernia. As an indirect hernia particularly increases in size the peritoneum, the parietal peritoneum is drawn down into the hernial sac and eventually the mesentery of the sigmoid or the secum is drawn down into the sac, so that the posterior wall of the sac of the hernia instead of being merely a serous membrane, now is a serous membrane which is the serous investment of a portion of the colon. As I say, this has nothing whatever to do with the abdominal parietes. It is only a matter of a change in the content and it is a matter of the peritoneum up to and including the mesentery of the colon being drawn down into the sac.

DR. STONE: I'd like to interject a comment of a practical nature. What Dr. Zimmerman has said is perfectly true from an anatomical standpoint, purely. There is a difference practically, in the sliding hernia. In the first place, it is quite easy in a fat patient not to recognize that it is a sliding hernia and you may inadvertently open the bowel when you think you're opening the hernia sac. That sounds like an improbable thing if you are at all aware of the anatomy, but it isn't actually, there is a real danger of that. In the second place, there is a danger even though you recognize that it is a sliding hernia.

In mobilizing the sliding viscus to enable yourself to replace it within the abdomen, you may seriously damage his blood supply, and in the third place, even after you have mobilized safely and recognized the condition, there remains the problem of how to close the defect in the peritoneum.

Now, those are practical issues that did arise in the sliding hernia which differentiate it from the surgical handling of an ordinary hernia, and I think they are real problems.

DR. ZIMMERMAN: I quite agree. The question was asked, though, about the anatomy and so

I confined my answer to the anatomy. Dr. Fort was asked,

Q. What are some of the complications of herniotomy? Can the end be worse than the beginning?

The answer to the second part of the question is definitely yes, the end can definitely be worse than the beginning. The ordinary direct inguinal hernia which is a diffuse bulge to the posterior wall of the canal, very often is asymptomatic and very often is discovered incidentally during a routine physical examination. That same hernia, if it recurs after operation due to cicatrization and fibrosis of the posterior wall of the canal, may be very painful for one thing, and also very prone to strangulation, which virtually never occurs in non-operated direct inguinal hernia. There are many other complications, of course, fortunately rare, which make you wish you had never tampered with that hernia. A badly infected wound, an infected wound in the presence of non-absorbable suture material, sometimes neuritic pain which persists indefinitely following the repair of a previously asymptomatic hernia, many such things may occur. Fortunately, they don't very often.

Q. How do I correct the oblique defect?

DR. ZIMMERMAN: I take that to be, How do I correct a dilated internal ring in an oblique hernia? That is very simple. If one completely exposes the posterior wall and the internal ring, one can with a very fine suture and a small needle put one or two very fine sutures in the crura of the internal ring and bring that ring snugly up against the cord, and parenthetically if one's repair in the indirect hernia is limited to that layer, to the transversus layer, a choked cord from interference with the circulation of the testis virtually will never occur, because it is an elastic and yielding membrane.

The second question has to do with the patching in direct hernia. I'll say in brief, that I use a flap of the external oblique aponeurosis, the lateral flap, which I turn medial deep to the cord and deep to the internal oblique muscle and

bring it in immediate apposition with the transversus layer over broad surface without tension and without any interposed fat or muscle or interference with the blood supply of that flap. Now, if the person who asked this question wants to ask further details, I'll be glad to explain this to him on the blackboard. I don't want to take the time for the entire group,

Q. What is the duration of post-operative disability?

DR. ZIMMERMAN: That varies, of course, with the individual. Self-employed people get back to work much quicker than those who are operated upon for hernias that are being paid for by an insuring agency. Over a long period of time in the latter group, the average period of disability has been, I think, five weeks, rarely less than four, virtually never more than six, unless there has been some complication. In the person who is not employed and who, therefore, is economically constrained to get back to his occupation earlier, a man who is doing virtually sedentary work, may be back at his office in two weeks following the operation. I would say as an overall answer to the question that perhaps four weeks is a good average period for repair.

DR. STONE: I imagine that Dr. Koontz must just be writhing with all kinds of things he'd like to say, and things he'd like to object to. I for one would like to have him come up and tell us something about hernias. Shall we let him writhe or let him stew?

DR. ZIMMERMAN: Let him talk.

DR. KOONTZ: Thank you, Dr. Zimmerman and Dr. Stone. There are a couple things that I would like to mention and say a word about. In the first place when Dr. Zimmerman said he didn't feel there was ever any occasion for doing a Cooper's ligament repair in inguinal hernias, I was willing to go along with him to a pretty large extent, but I think there is one condition that you do come across occasionally where a hernia has been operated on several times before and the inguinal ligament has been destroyed and all of the floor of the canal has been destroyed,

and you just haven't any tissues with which to make the repair. You have no transversalis fascia and then your Cooper's ligament is a fine thing to use just as you would in a femoral hernia repair.

DR. ZIMMERMAN: I certainly accept that, Dr. Koontz.

DR. KOONTZ: There is another thing I'd like to mention. I agree thoroughly with what Dr. Zimmerman said about the presence of a large external inguinal ring not indicating a hernia and there have been a couple of series of experiments run on that in which several thousand patients with enlarged external inguinal rings were observed over a period of years, and a control series with normal external inguinal rings observed. The incidence of occurrence of hernia was no larger in the series with large rings than in those with normal rings, which, I think, definitely proves that the presence of an external inguinal ring has nothing to do with the appearance of a hernia, just as Dr. Zimmerman said.

Now, there is one other thing I'd like to comment on very briefly. Dr. Zimmerman said he'd never use tantalum gauze in a primary inguinal hernia. I think that he meant in a small primary inguinal hernia with good tissues with which to repair it. But you do find some primary inguinal hernias, long standing scrotal hernias, never before operated on; in which due to long standing and the large size of the hernia, there is great atrophy of the tissues and very little with which to repair. I think that you need some other substance, such as a fascial patch or tantalum gauze patch or cutis graft, when you have a tissue defect, whether that tissue defect is in the presence of a primary hernia or a recurrent hernia.

There is one other thing that he mentioned, that he saw no difference between tantalum gauze and stainless steel gauze and I can understand that because I would say the same thing if Dr. Kimberly and I hadn't done a tremendous lot of experiments comparing those two materials, resecting the rectus muscle in animals on

both sides and repairing the defect on one side with tantalum gauze and on the other side with stainless steel gauze, so that there was no individual variation in the experiments—both were in the same animal. In all those animals we got very much better infiltration of the tantalum gauze than the stainless steel gauze.

I think the reason for that is that the stainless steel is absolutely inert in the tissues and causes no fibrous reaction. There is evidence that tantalum does cause a stimulation of fibrous tissue and I think it is due not to the tantalum itself but to the tantalum oxide which is on the surface of the tantalum. If you take tantalum oxide powder and implant it in the tissue of an animal you get great fibrosis around it, and you get more fibrosis around tantalum gauze than you do stainless steel gauze, and I believe that that is the answer, the tantalum oxide is an actual stimulant to the ingrowth of fibrous tissue. Thank you very much for giving me an opportunity to say a little something.

DR. STONE: The time is getting late. There are two questions addressed to me, if you will give me a moment I will speak briefly about them and then turn this meeting back to Dr. Koontz.

Q. Tell us of the worst hernia you ever saw and ever operated on.

DR. STONE: Well now, that is somewhat in the nature of an experienced, meaty question, and I can't select an individual hernia to remember. I can say this. By and large the largest and most difficult hernias to deal with mechanically are neither inguinal nor femoral nor umbilical, but they are incisional. Some of these huge incisional hernias in which the whole half of the abdominal wall has given way, and in which all sorts of viscera are out and adherent in the sac do present tremendous difficult mechanical problems.

Q. Please give your reasons for using catgut in hernia repair?

DR. STONE: Evidently somebody knows my peculiar weaknesses. It would take too long to fully elaborate all the reasons why I prefer catgut. I can say once or twice. . . . First of all I

was raised on silk. Once or twice I had an experience which good surgeons never have, of having an infected wound that had been repaired with silk and I still remember the most of prolonged removal of silk. In the second place, catgut now is not the same material it was when catgut fell into disrepute. In the first place the strands are very much finer, very much stronger in tensile strength and their sterility is as good as that of boiled silk. So that so far as those qualities are concerned, I think there is no choice. So far as the use of an absorbable versus a non-absorbable suture material is concerned, I do have some reasons for preferring catgut. In the first place the lasting repair of the hernia does not depend on the strength or persistence of its suture material. It depends on the proper healing without tension of the structures that you bring together in your repair. If your suture lasts long enough for the healing to be firm and solid, it is desirable that it shouldn't last any longer because it does happen sometimes that the buried foreign material even late, can give rise to trouble.

I recall very well a case that I published many years ago, of a boy in whom I found an abscess around a silk stitch, six or seven years after a hernia repair which had seemed to be perfectly all right all during the interval.

If I were going to have a hernia done myself, I would rather have the knowledge that the su-

ture material disappears after a reasonable length of time and that the securing of the repair was based upon the wound healing of my own structures than on fragments of a foreign non-absorbable body that is going to stay there the rest of my life.

Dr. Koontz, will you take over?

DR. KOONTZ: I'd like to say just one more word about the hernia business. What Dr. Stone said about incisional hernias being the most difficult to cure, I thoroughly agree with, and I think the most difficult of all incisional hernias to cure are incisional hernias in the epigastric region because there you cannot easily bring the edges of the defect together. The thoracic cage gives you a rigid environment. They are really difficult hernias to cure, as all of you, I am sure, are aware.

Now, I simply want to express my thanks to this Panel for coming here. I am sure you all have enjoyed it as much as I have. It has been a perfectly magnificent discussion. Dr. Fort here, has fallen among thieves, no question about that, but he comported himself very well indeed; of course, Dr. Stone is always superb in any discussion, and I am certainly deeply grateful to Dr. Anson and Dr. Zimmerman, these two distinguished gentlemen from Chicago, for coming down here and giving us this treat tonight.

Thank you very much.

ARTICLES OF INTEREST

EMOTIONAL DISORDERS OF LATER LIFE

Review of Pathogenesis and Treatment of 100 Cases*

GEORGE G. MERRILL, M.D.

With the proportion of elderly people in our population having doubled in the past fifty years (1), the problems of people in later life become increasingly important to their physicians. Among the problems that occur most frequently among the older age group are psychic disturbances. These include not only the actual psychoses, but also the more frequent emotional or neurotic reactions. The care of the elderly is complicated as much by emotional illness as by organic disease, and the impact on their families is often far greater. Much study of these emotional disorders is needed, particularly in regard to their causes and treatment. Much has been written in general terms about the emotional problems of the aged (2), but there is little available information about the specific problems encountered in practice, and the specific ways of dealing with them. Only by the careful evaluation of actual cases and the results of various treatments can physicians be enabled to meet adequately the needs of their elderly patients.

Not all cases of emotional illness require psychiatric care; in fact most of them can be successfully treated by the family physician. However, there are times when psychiatric intervention is urgent, particularly when depression incapacitates the patient. Depression always carries with it the threat of suicide, so that prompt and adequate psychiatric treatment may be a life-saving measure. Depression is particularly frequent among the elderly, as an emotional reaction to various unfavorable factors in their lives. It may be masked by physical symptoms or by the over-activity of an accompanying agitated restless state, but the characteristic depressive symptoms of insomnia, anorexia, and loss of interest in usual activities are present even if no crying or outward expression of melancholy is seen.

*Submitted November 15, 1955, for publication in the Maryland State Medical Journal.

The family physician encounters many of these depressed elderly people, and soon finds that their care is not as simple as suggested by the glowing reports of the drug manufacturers. When the case is refractory to the usual therapeutic measures of the family physician, the psychiatrist can be a useful member of the team needed to meet the difficult situation that develops in the home of the emotionally disturbed elderly patient. This report is a survey of 100 such cases seen in consultation in private psychiatric practice in the last few years. No patients with psychoses are included, and none with organic disease of the brain.

In dealing with elderly people, it is important to remember that longer life is not necessarily happier life. In fact, the reverse often occurs. Longer life is likely to demand difficult adaptations that may be so far beyond the patients adaptive capacity that emotional decompensation develops, with its symptoms of depression, obsessive worry, and other neurotic reactions. Age, with its diminishing physical and mental endurance, and its diminishing opportunities for satisfactions that formerly meant much, subjects the individual to emotional pressures that demand adaptations greater than at any other period of life, at a time when such adjustments are particularly difficult. Unsatisfying situations in life can produce states of mind that impair health, and this is particularly prevalent in later life. Fortunately, such mental and emotional states can be successfully treated.

STUDY OF PATIENTS

In order to show the sort of emotional problems that occur in later life, and their response to treatment, a study was made of 100 consecutive patients over the age of 60, who were not psychotic and not suffering from organic disease of the brain, but who were sufficiently disturbed to be referred for psy-

chiatric evaluation. No selection of cases was made, except for excluding those with evidence of psychosis or organic brain disease. All were ambulatory and able to carry on their life activities fairly well. They were seen in private psychiatric practice, being referred by their family physicians.

Sex. 71 of the 100 patients studied were women, and 29 men.

Age. 80 patients were in the age range of 60 to 69; 18 were aged 70 to 79; and 2 were aged 80 to 89.

Symptoms. The emotional disturbance in these 100 people manifested itself in various ways. 88 were depressed, with loss of interest in the world about them, loss of energy, loss of appetite, and inability to sleep well. The sleep disturbance was characteristically worse in the latter half of each night, so that they would wake up after 3 or 4 hours of sleep, and would be unable to go back to sleep. Thirty-one patients were agitated as well as depressed, pacing the floor, wringing their hands, unable to sit still for more than a few minutes at a time, and unable to settle down to anything. Twelve patients showed a great tendency to self-condemnation, brooding over unforgivable sins or supposed misdeeds of their youth.

Fourteen patients showed paranoid thinking, feeling that others were plotting against them, belittling them, or in some way making life miserable for them. Two patients showed a catatonic degree of withdrawal, so that they were not talking, not eating, and not doing anything for themselves. Fears were not frequently expressed among their complaints. Only 3 mentioned a fear of death.

Physical symptoms of a psychosomatic nature predominated the complaints of some. Eight patients complained of headache as their chief symptom, all having situations in their lives that were "a headache" to them. Eight other patients had abdominal symptoms and dyspepsia as their principal complaint. They were faced with circumstances in life that were "hard to stomach." Three patients had hysterical symptoms of muscle spasm without evidence of any organic neurological disease. One of these three had torticollis, with the turned head seeming to symbolize her refusal to face the unpleasant realities of her life. Another had campocormia, with her bent back symbolizing her inability to stand up under the blows life had dealt her. Another had a severe lower facial spasm that

symbolized her snarling resentment of the way life had treated her.

Contributing Factors. The greatest common factor among these 100 people was a rigid, perfectionistic, worrying, obsessive outlook on life, which made it impossible for them to accept compromises or to adapt philosophically to changed conditions. Forty-nine patients gave a clear history of a lifetime of obsessive worry, which had made it difficult for them ever to accept any changes. Thirty-seven patients were distressed by their failing physical strength and physical conditions such as heart disease, arthritis, failing vision, and other such impairments that made it impossible to do all that they felt they should be doing.

Thirty-four patients were very dissatisfied with their present living conditions. Many of these resented having to live in their children's homes, although they were unable to maintain their own homes. Some were unhappy about the deterioration of the old familiar neighborhood, resentful of changes such as having neighbors of a different race or background from their own.

. Many unsatisfactory situations in life had provided enough pressure to upset the emotional balance in these 100 patients. Twelve patients were faced with considerable financial worry. Six had to shoulder responsibilities beyond their strength; four had had prolonged periods of overwork forced upon them, usually as a result of illness of a relative. Eight patients were unable to adapt to the fact that their children had left them; two were unable to adapt to new homes; and two more were unable to adapt to retirement after a life of hard work. Fourteen patients had been unable to accept the loss of a loved one, six of these having become depressed following the death of their husbands, two more being unable to accept the death of one of their children, and five being depressed since the death of a brother or sister, and one depressed since the loss of a very close friend. Worry over relatives had upset four patients, two of these being men who were worried by the serious illness of their wives; one woman was worried by the mental illness of a daughter, and one (a father) was worried by the failure of his son to achieve economic security. In two people, a recent automobile accident had precipitated a depression, and two more attributed theirs to religious worries.

In contrast to much that has been written about sexual frustration and resulting guilt feelings being important in the development of depressions among elderly people, only one widow complained of unsatisfied sexual desires playing any part in her emotional upset. The rest, even when questioned closely about their sexual situation, failed to show any evidence that this was the major factor in their illness. Thirty-three of these 100 patients were widowed, 3 divorced, 13 unhappily married, and 14 unmarried, and the unsatisfactory marital status may have been a subconscious contributing factor, or in the case of the divorced, unmarried, and unhappily married, may have just been an index of emotional immaturity.

Five of these 100 patients were foreign-born, and had never adjusted altogether successfully to the life of this country; 21 had had a nervous parent, so that their early lives had been emotionally upset by continuous tension in the home; and thirteen had had at least one previous depression at an earlier period in life.

TREATMENT

Treatment varied considerably, according to what was possible in each case. Some patients or their families had very firm ideas about what treatment they wanted, and some wanted none. Thirty-six patients were not treated by the author, except for a brief formulation in a single interview, as they were seen only one time in consultation with the family physician in charge of the case, who then carried on with further treatment himself. Of the 64 patients treated by this author 43 were treated by office electric shock therapy, combined with varying amounts of psychotherapy; and 21 were treated by psychotherapy alone. Those treated by electric shock therapy were depressed patients in whom such treatment was necessary because of the danger of suicide or because of inability to carry on their work, and who were inaccessible to psychotherapy.

Of the forty-three patients treated by electric shock therapy in the office, 39 recovered or were much improved. The 4 patients who did not improve stopped treatment on their own volition after only one or two treatments, before any real improvement could be expected. In most cases, this was due to the inability of the patient's family to cope with the situation at home, so that mental hospitalization

was necessary. Thirty-nine successfully treated patients required from 3 to 14 treatments; 37 of them requiring 3 to 8 treatments, depending on each individual's response to therapy. Twelve of the successfully treated patients relapsed, at intervals of several months to years after the first course of treatment, but promptly recovered with the help of more treatments. In 321 treatments given to these 43 patients, only two complications occurred, one a fracture of the humerus in a 69-year-old woman, and the other a fracture of the acetabulum in a 60-year-old man.

Of the 21 patients treated by psychotherapy alone, 16 improved and 5 were unimproved. Therapy was of an essentially supportive sort, as the age and rigidity of the patients made deep insight therapy impractical. Treatment of the successfully treated cases ranged in time from two visits to two years. Treatment was concerned with helping the patient to accept himself in a more realistic way; to see the assets as well as the liabilities of advancing age; to correct those difficulties in the life situation that could be corrected; and to accept philosophically those that could not be altered. A positive relationship between doctor and patient was maintained, to offset the patient's sense of aloneness and helplessness, and the help of families and friends was enlisted when possible, to provide an environment with as many personal satisfactions as possible under the circumstances of each case. Of the 5 patients who did not improve with several weeks to months of psychotherapy, 4 were emotionally isolated, rigid, suspicious, unapproachable and unable to achieve any satisfactory working relationship with the doctor. One patient was a 77-year-old man with a life-long manic-depressive history who left after a month's trial of psychotherapy to begin electric shock treatments elsewhere.

Most of the 100 patients were in the age group of 60 to 69 years. Of the 20 patients who were over 70, 6 were treated with electric shock therapy, and all recovered. Six other patients over the age of 70 were treated with psychotherapy alone, with only 2 recoveries. This emphasizes the greater effectiveness of electroshock in the older and more rigid patient.

COMMENT

From this series of 100 elderly patients, it appears that depression is by far the commonest emotional

TABLE 1
100 Cases

Sex	Age	
Male.....	29	60 to 69..... 80
Female.....	71	70 to 79..... 18
		80 to 89..... 2
Symptoms		
Depression.....		88
Agitation.....		31
Paranoid state.....		14
Self-condemnation.....		12
Headache.....		8
Abdominal complaints.....		8
Fear of death.....		3
Hysterical spasm (face, neck, or back).....		3
Catatonic withdrawal.....		2
Contributing Factors:		
Tendency to obsessive worry.....		49
Failing physical strength.....		37
Dissatisfaction with living arrangements.....		34
Nervous parents.....		21
Widowed.....		33
Unmarried.....		14
Unhappily married.....		13
Divorced.....		3
Recent death of loved one.....		14
Previous depression.....		13
Financial worry.....		12
Children away.....		8
Excessive responsibility.....		6
Overwork.....		4
Worry over sick relative.....		4
Recent retirement.....		2
Recent move to new home.....		2
Religious worries.....		2
Unsatisfied sexual desire.....		1
Treatment		
Not treated (seen only in consultation).....		36
Treated with psychotherapy.....		21
improved.....		16
Treated with electroshock.....		43
improved.....		39

disturbance, occurring in an 88 per cent incidence. Inability to adapt to the changes that had occurred in their lives was responsible for the great majority of these depressive reactions. In only 13 per cent had there been any previous depression, suggesting that in most of these people the depression in old age was a reaction to their life at that time, rather than the recurrence of a previous depressive tendency. The most frequently encountered situations to which they were reacting in this way were failing physical strength and health (37 per cent); dissatisfaction with changed home conditions (34 per cent); loss of a loved one on whom they depended (14 per cent);

financial worry (12 per cent); or the loneliness arising from their children's departure from home (8 per cent). Less frequent factors were retirement, accidents, worry over their children, or having to work beyond the limits of their failing strength. Lack of sexual satisfaction was rarely a conscious cause of concern.

Only a few (11 per cent) of these 100 people expressed their emotional attitudes in a predominantly psychosomatic way. Of these, headache was the commonest complaint, expressing dramatically the pain caused them by some intolerable situation in their life at that time. Some others utilized abdominal symptoms and dyspepsia as a subconscious expression of their inability to "stomach" distasteful situations in their lives. Fewer still expressed their emotional conflicts by means of psychosomatic hysterical symptoms, such as torticollis, campocormia, or facial spasm. These hysterical muscular reactions symbolized subconsciously certain emotional attitudes that they were unable to express in any other way, such as the inability to look at certain unpleasant facts in the case of the woman with torticollis; inability to stand up under life's repeated blows in the woman with campocormia; and the snarling resentment with life in the woman with spasm of her lower facial muscles.

Treatment was more effective than had been expected in people of their age. All of the 64 patients who sought treatment were given at least a brief trial of psychotherapy. Of those 16 patients whose response to psychotherapy was sufficient to make other methods of treatment unnecessary, all recovered satisfactorily. The five patients who did not improve on psychotherapy alone were all very rigid paranoid personalities, whose attitude of resentment, suspicion, and hostility toward everyone in their lives was so marked that they came grudgingly for only a few visits, never cooperating fully, and spending most of their time with the doctor defying him to do anything to help them. Possibly electric shock treatment would have helped them, but they were adamant in refusing it.

Of the 43 patients treated with electric shock treatment, all were depressed. The results were excellent in all the 39 patients who cooperated long enough to be given the 3 to 14 treatments necessary to relieve their depression. When in a less depressed mental state as a result of electric shock treatments, they were able to respond quickly to psychotherapy,

and to cope better with the various situations in their lives that had precipitated their illness. Four patients with whom electric shock treatments did not help stopped treatment before responding. Only 2 complications of electroshock therapy occurred, both musculo-skeletal; neither incapacitating for long; and neither interfering with successful mental results of the treatment. These good results from electric shock treatment in the elderly agree with the results reported by others (2), and emphasize that age is not in itself a contraindication to this form of treatment. As much psychotherapy as possible must be given before, during, and after the period of electric shock treatments, if the best results are to be obtained, as one of the best effects of the treatments is to make the depressed person more accessible to psychotherapy.

Psychotherapy given to these patients was designed to give emotional support by helping them to feel worthwhile; "understood;" and not as hopeless as they had feared. In addition, therapy was given to help each person to accept himself in a more realistic way; to see the assets as well as the liabilities of advancing age; to correct those difficulties in life that could be corrected; and to accept philosophically those things that could not be changed. The good results obtained show how effective such a simple

plan of treatment can be in lonely, discouraged, worried people past the age of 60.

SUMMARY

100 non-psychotic patients past the age of 60, without any organic disease of the brain, seen in private psychiatric practice, have been studied. Depression was found to be the most frequent clinical manifestation of their emotional disturbance. Inability to adapt successfully to changed conditions in their lives was the most frequent cause of their illness. Treatment was successful in the great majority of cases, whether they were treated by psychotherapy, electroshock therapy, or both.

REFERENCES

1. Population Bulletin, Washington, D. C., X1: 33, May 1955.
2. STIEGLITZ, E. J. "Geriatric Medicine. Medical Care of Later Maturity." 3rd Edition, Lippincott, Philadelphia, 1954.
- ALLEN, E. B., AND CLOW, H. E., "Psycho-physical Compensating Adjustments in the Aged." *J. Amer. Geriat. Soc.* 1: 785, 1953.
3. MAYER-BROSS, W., "Electric Convulsion Treatment in Patients over Sixty." *J. Ment. Sci.*, 91: 101, 1945.
- FELDMAN, F., SUSSELMAN, S., LIPETZ, B., AND BARRERA, S. E., "Electric Shock Therapy of Elderly Patients." *Arch. Neurol. and Psychiat.* 56: 158, 1946.

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THE SPIRIT IN ANAESTHESIA*

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Where scientific knowledge fails man cannot but be guided by his felt needs and longings and aspirations.

Gilbert Murray (1)

Mr. Chairman, Ladies and Gentlemen:

Please accept my thanks for the honour of the invitation to speak to you this evening. You may be

*Read at a Joint Meeting of the Maryland Society of Anesthesiologists and the Anesthesiology Section of the Baltimore City Medical Society, in Baltimore on Friday, April 27th, 1956.

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assured of my deep appreciation. Let me tell you, too, that my wife and I are very grateful indeed for your many courteous kindnesses to us all through this visit to the famous city of Baltimore. Baltimore! Famous in several ways! And Canadians think at once of the great men of Johns Hopkins among whom was Sir William Osler who did so much of his best work here.

Mr. President, you and your associates are to be congratulated for the enthusiasm and excellences of The Maryland Society of Anaesthesiologists. For this I foresee good growth, as I foresee anaesthetists realizing more and more the value of strong spiritual elements in the ordering of life. Roused to action I have chosen as an epigraph for this discourse, some

words from George Gilbert Aimé Murray (1886-), Regius Professor of Greek at Oxford (1908-36) and honoured in having been awarded the Order of Merit. These words imply that we must feel the value of spiritual elements. Value of spiritual elements! Why, these words point the way to spiritual integration. They were written, as if in awareness, against the tragedy of social disintegration, against 'the schism in the soul' which, according to Arnold Toynbee, heralds the decay of civilization; it would seem as though they were written against an abandon in which the soul 'let itself go.' They point the way to truth through aesthetic experience, through beauty as a vehicle of 'transcendental feeling' (2) despite the difficulty adequately to define what is meant by the term beautiful (3). These words like many of the lines of Wordsworth and some of the verses of G. M. Hopkins have given to 'the poet a new "unity of life," an integration of spiritual and sensuous experience' (4); and, as T. S. Eliot, after having explored 'both the outer and the inner worlds simultaneously,' retreats into the spiritual life and becomes the great renovator of English poetry. 'He has given it a new intellectual dignity, new forms arising out of a new sincerity and a new spiritual depth.'

Thus may be seen the great achievement of poetry in that it has remained alive in a world which has become increasingly hostile to all the values for which the poet stands. But, than this, there is a great deal more for us to recall from the past on the topic of humanity and science considered together. Since much more than five hundred years before Christ the Greek philosophers gave thought to both equally and developed the intellectual side of civilization until the Romans dominated them, learned from them and added to their knowledge. But, after the fall of the Roman Empire and with the subsequent so-called Middle Ages, there was a general stagnation in cultural unfolding until Petrarch (Francesco Petrarca, 1304-74), humanist and poet, devoted himself to the study of classical antiquity. He awakened the interest of his countrymen (of Italy) in the ancient Greek and Roman world, encouraged education and culture, and sought to reconcile pagan with Christian ideals. Bolgar (5), in his book; *The Classical Heritage and its Beneficiaries*, writes: 'The role of Petrarch in the limited field of classical studies was every whit as revolu-

tionary therefore as the part he played in the whole wide development of European culture. If he was the first modern man, he was also the first modern—or at any rate, the first Renaissance-scholar.' But, although his followers made great sets of progress, there was often some practical need, to preserve some *status quo*, that acted as a bar to the pursuit of researches which went beyond what was immediately useful. 'The history of learning is not a free field. It is the history of society.' Wars and rumours of wars have played no small part in hindering the progress of humanity. 'It will ever be so, as long as men are unwilling to recognize that the whole is greater than its parts, and that Humanity has rights superior to those of Industry or of Nationality' (6). Pasteur wrote that 'Two contrary laws seem to be wrestling with each other nowadays: the one, a law of blood and of death, ever imagining new means of destruction, and forcing nations to be constantly ready for the battlefield—the other, a law of peace, work, and health, ever evolving new means of delivering man from the scourges which beset him. The one seeks violent conquests, the other the relief of Humanity. The latter places one human life above any victory; while the former would sacrifice hundreds of thousands of lives to the ambition of one.' This epoch-making paragraph is taken from the document prepared by Louis Pasteur for the occasion of the inauguration of the Pasteur Institute in Paris in 1888. Overcome at the reception accorded him by the scholars and statesmen of France, this great benefactor of mankind asked his son to read the manuscript. If, in 1918, The Honourable W. L. Mackenzie King, Late Prime Minister of Canada could write: 'The utterance was unheeded prophecy then. In what measure that prophecy has been fulfilled, the world now discerns through its tears.' How may we feel to-day? Is it not the supreme aim of Science, by obeying the law of humanity to extend the frontiers of life?

It may well be that mathematics is the bridge between humanity and science. Has not J. W. N. Sullivan (7) said: 'There can be little doubt that it is the aesthetic element in mathematics that has been chiefly responsible for the attention it has received. If mathematics is to be ranked as a science, then it is, of all the sciences, the most akin to the arts. . . . Certain branches of mathematics, it is true, have been created to deal with some actual physical

problems but for the most part, mathematics has been a remarkably autonomous activity. In this respect it greatly resembles the art of music, whose development also has been so largely conditioned by considerations springing from its own ground, and owing nothing, or almost nothing, to the external world.' Did not Einstein himself, in writing on Max Planck, reveal himself when he says: 'The emotional condition which renders possible such achievements is like that of the religious devotee or the lover; the daily striving is dictated by no principle or programme, but arises from an immediate personal need.' (7)? And, we may all be very happy to realize that 'Carved in the white walls of the Riverside Church in New York, the figures of six hundred great men of the ages—saints, philosophers, kings—stand in limestone immortality, surveying space and time with blank imperishable eyes. One panel enshrines the geniuses of science, fourteen of them, spanning the centuries from Hippocrates, who died around 370 B.C., to Albert Einstein, who was seventy years old in March, 1949' (8). It is noteworthy that Einstein was the only living man in this whole sculptured gallery of the illustrious dead. Gallery of illustrious dead! Galaxy of intellects unfading! Behold this vision of greatness! And let us, with Franklin Kidd, scientist and Fellow of the Royal Society, say:

They nod,
Wagging their heads:
Knowledge, they say,
Is neutral;
And scholars take an oath
Against all wishful thinking.
Let knowers know
That this same wishful thinking
Stands as the one thing known.
Then will they be more men and more
Like God.

Neutrality (9)

Let us ponder these thoughts as we recognize that 'Religion, like poetry and most other living things, cannot be defined. But one may perhaps give some description of it, or at least some characteristic marks. In the first place, religion essentially deals with the uncharted region of human experience. A large part of human life has been thoroughly surveyed and explored; we understand the causes at

work; and we are not bewildered by the problems. That is the domain of positive knowledge. But all round us on every side there is an uncharted region, just fragments of the fringe of it explored, and those imperfectly; it is with this that religion deals. And secondly we may note that religion deals with its own province not tentatively, by the normal methods of patient intellectual research, but directly, and by methods of emotion or sub-conscious apprehension. . . . A third characteristic flows from the first. The uncharted region surrounds us on every side and is apparently infinite; consequently, when once the things of the uncharted region are admitted as factors in our ordinary conduct of life they are apt to be infinite factors, overruling and swamping all others. The thing that religion forbids is a thing never to be done; not all the inducements that this life can offer weigh at all in the balance. Indeed there is no balance. The man who makes terms with his conscience is essentially non-religious; the religious man knows that it will profit him nothing if he gain all this finite world and lose his stake in the infinite and eternal . . . ' (10). Thus wrote Gilbert Murray, and it does seem to be a fact that man must have some relation towards the uncharted, the mysterious, tracts of life which surround him on every side. Then, Murray goes on: 'For my own part I am content to say that his method must be to a large extent very much what St. Paul calls *πίστις* or faith: that is, some attitude not of the conscious intellect but of the whole being, using all its powers of sensitiveness, all its feeblest and most inarticulate feelers and tentacles, in the effort somehow to touch by these that which cannot be grasped by the definite senses or analysed by conscious reason. What we gain thus is an insecure but a precious possession. We gain no dogma, at least no safe dogma, but we gain much more. We gain something hard to define, which lies at the heart not only of religion, but of art and poetry and all the higher strivings of human emotion.'

So, as one goes along and across the complex bourne of space and time, one sees nowadays strong concern expressed by our educators over the image of a gulf or gap which has 'developed between science (or man's knowledge of nature) and the arts (or man's best use of such knowledge).' They seem to fear a crisis in Western Culture. In the August, 1955 issue of *Universities Quarterly*, W. H. G. Armytage, Professor of Education, University of

Sheffield (11), quotes General Smuts as telling the British Association for the Advancement of Science, in 1931, that 'one of the greatest tasks before the human race will be to link up science with ethical values, and thus remove grave dangers threatening the future. A serious lag has already developed between our rapid scientific advance and our stationary ethical development, a lag which Science must itself help to close.' And then he quotes Robert Birley, Headmaster of Eton College, from his address to the same British Association in 1953, referring to this same gap, as saying: 'The humanist and the scientist of our time very rarely, if ever, use the same language. In the last three hundred years, a great rift has appeared in our culture, and it is of the rift and its educational implications that I wish to speak.' 'This rift', he concluded, 'created at least in part by the kind of education our schools provide, is beginning to affect the schools themselves.'

In the same issue of the *Universities Quarterly*, Sir Charles Morris (12), Vice-Chancellor, University of Leeds, states: 'As a medium of education for young men and women there can surely be no discipline like philosophy. Nothing develops the powers of the mind so well as hard thinking; nothing but continued and repeated thinking can teach a man in his very bones the most important lesson of all—the lesson of the *power* of thought. Before ever we can judge from experience for ourselves we are taught that "knowledge is power"; but we give little effort to attempting to find out what this means. Memory is not power; sensibility is not power; accumulated information, whether in books or in the mind, is not power. It is thinking which is power.' Then he reminds us that Plato said, 'the method of science is wonderful but it is not all-conquering. Science is not everything; alone it is not enough.' 'To-day . . .', says Morris, 'this point of view is largely acceptable to men of science themselves. After all, however much medicine may owe to the discoveries of science, healing is an art; and it is even coming to be accepted again, in spite of the proliferation of clinics, that diagnosis is an art. . . . The university in its concern with education is primarily concerned with the intellect; but the development and training of the intellect in its "scientific" employment is not the beginning and the end of university education. There is much more that a university has a responsibility to give. The intellect in its non-scientific uses calls for

development and discipline in the undergraduate years as loudly and clearly as it does in its scientific employment, and no intensification of scientific training will give this. . . . The development of the power of good judgment in answering the questions which cannot be answered in science but which must be answered in life is the most fundamental aim of education. . . .

'Finally it is almost more important to the young man to come to terms with his intellect than it is to acquire particular skills in using it. . . . There is still perhaps a tendency here and there to think that science can do everything, and that is a delusion which is objectionable enough; but there is a greater prevalence to-day of the heresy in the much more dangerous direction—that what science cannot do is beyond the purview and sphere of influence of human reason altogether. This anti-rationalism has been dominant in the history of human affairs before now, but never without disaster.'

But let us hope that we are passing from the gloom of a passage into the brilliant light of a sunlit room. It would seem that perhaps we are when we realize that so much attention is being paid to the problem by educators the world about. Indeed, is this not exemplified by the life and works of Einstein? For, 'When the Archbishop of Canterbury once asked Einstein what effects his relativity theory would have on religion he answered "None." This time Einstein was wrong. His ideas have given new strength to religion, shaking the foundation of fatalism and materialism' (13). Again, 'The trend of thought begun by Einstein has shown that men can never get to close grips with reality because the more they dissect the stuff the world and they themselves are made of the more elusive it becomes. . . . Einstein did believe in God—though not the God of any orthodox faith. "My religion consists of a humble admiration of the superior spirit," he wrote.' In truth, in this our own age, are we not beginning to reconsider fundamental values? But have we the coherence to continue? Let us of the medical profession carry high the torch and let the coming generations in harmonious connexions carry it higher and higher. But lectures like this are futile unless they are followed up by reading on the part of the younger members of the audience. In 1951, with the blessing of Sir Lawrence Bragg, Cavendish Professor of Experimental Physics in the University of Cambridge, T. R. Henn

(14), Lecturer in English, gave a series of lectures to the science students. Towards the end, he said, in part: 'Much great art is concerned with the tragedy of life, and it is partly true to say that "our sweetest songs are those which tell of saddest thought": but that is because tragedy, by its nature, invites the consideration of ultimate values, and the end of the greatest tragedies is a curious and a profound joy. I quote again from Yeats (says Henn): "A poet creates tragedy from his soul, that soul which is alike in all men. It has not joy, as we understand that word, but ecstasy, which is from the contemplation of things vaster than the individual, and imperfectly seen, perhaps, by all those that still live."' Then Henn goes on to say: 'Hold closely to the doctrine of diversity of excellences, as to that of the diversity of gifts. Build up your taste by selection from below, not by using someone else's standards imposed from above.'

During the past decade or so, considerable attention has been given to the problem of teaching philosophy in the universities to students specializing in other subjects. Most authorities agree it would be a great contribution to general education and general culture, but there are difficulties, the chief difficulty being the finding of room in the curricula. In 1954, W. B. Gallie (15), Professor of Philosophy, University College of North Staffordshire, advocated that the teacher of the speciality concerned ought himself to deal with the philosophical questions of his own subject. But, as he will recognize that he cannot proceed very far with these questions, he should seek aid from philosophers who can sympathize with him, and he believes that there would be a most eager response from these philosophers. It is earnestly to be hoped that this good movement will be extended. Philosophical knowledge will undoubtedly enhance fitness for teaching among the personnel of our profession and make better physicians, better surgeons and better anaesthetists. Then in looking at the Socratic doctrine of the soul, we shall note it 'is neither psychology, in our sense of the word, nor psycho-physics. It tells us nothing on the question what the soul *is*, except that it is "that in us, whatever it is, in virtue of which we are denominated wise and foolish, good and evil"' (16). A present day Scots teacher at the University of Glasgow, A. R. Burn (17), has written: 'every teacher must have some spark of the spirit of Socrates, or he had better be minding a machine.'

I hear someone say, what does all this amount to? The answer is not far to seek. For, as one looks back at the great changes which have taken place in medicine, one sees that these have been scientific changes and that concurrently there has been some waning in humanity and sympathy. These changes apply to medicine generally as well as its several branches. Increasingly during the past some thirty years the anaesthetist has taken an active part in research and teaching in the belief that these react favourably upon each other, together creating the right atmosphere and building up the right tradition; and, in the belief that the research should be of the clinical variety wherein the work may be done equally freely in the laboratory, the operating room, the recovery room and the ward. Indeed, it is well for a department of anaesthesia to consist of two divisions, the one clinical and the other laboratory. Thus we have seen many developments, just to mention some as good examples:

1. Provision of opportunity for young doctors to learn anaesthesia through the organization of centres and the establishment of laboratories for research.
2. Extended use of oxygen in anaesthesia.
3. Elimination of carbon dioxide, whether by absorption or through non-rebreathing.
4. Increased knowledge of the effects of drugs used in anaesthesia on the vital functions.
5. Discovery and use of muscle relaxants.
6. In pre- and post-operative care; the employment of psychotherapy, parenteral feeding (of blood, etcetera), the establishment of recovery rooms, and the application of new methods of control (oximetry, E.C.G., E.E.G., etcetera).
7. In new methods; tracheal intubation, non-rebreathing; non-resisting valves, intravenous anaesthesia, assisted and/or controlled respiration, controlled hypotension ('high spinal', bleeding, ganglioplegic drugs), and potentialized artificial hypothermia.
8. New anaesthetic agents; as, short-acting barbiturates, cyclopropane, ethylene, vinyl ether, trichlorethylene, and the regional anaesthetics.

We can all agree that such important advances have been made that the surgeon's work has been enhanced and extended, and that the patient is

assured of increased ease and safety. Of these examples I should like to say a little more concerning numbers one and six. Let me take the topic of psychotherapy in anaesthesia first. One does well to read Robert Burton (1577-1640), his book, *The Anatomy of Melancholy* (1621) or, at least, the book about Burton by Bergen Evans (18). Burton was a priest of the Church of England and a fellow of Christ Church, Oxford. He could be regarded as one of the first psychiatrists. "Old Burton," as he has been affectionately called, used an incredible number of quotations in his book from medical and classical writers and from theologians, philosophers, dramatists, historians, satirists and poets. He 'must be regarded as one of the most learned men that ever lived.' The *Anatomy* became recognized as a great storehouse of information. Indeed, it still is. 'In 1914 Sir William Osler, in an article in The Yale Review, insisted that the *Anatomy* was a serious psychiatric study and still of value.' Burton deals with the many features of anxiety and of the emotions and, of course, treats of fear quite fully. The anaesthetist has learned a great deal about the psychological approach from the psychiatrist and the psychologist about fear. 'To dispel fear is always his duty. To drive away anxiety ought to be a supreme obligation on all who are in attendance. We read in the Book of Job (chapter XVI, verse 5): "But I would strengthen you with my mouth, and the moving of my lips should assuage your grief." So, through gentle gesture, tender touch and wise word, uttered in soft voice, your patient is brought to just dependence and caused to feel secure' (19) before operation. Thus, with Shelley, to inspire that:

... Man who man would be,
Must rule the empire of himself; in it
Must be supreme, establishing his throne
On vanquished will, quelling the anarchy
Of hopes and fears, being himself alone.

Sonnet: Political Greatness

Establishing his throne! Being himself alone! Has not Sinnott (20) written in his *Cell and Psyche*: 'It is a lofty conception, I think, to regard the soaring spirit of man, which creates beauty, strives for knowledge, and aspires to an understanding of the mysteries of the universe, as rooted in the same vital processes which fashion his limbs and time the beating of his heart; to look upon the inspiration which

welled up in Shakespeare's mind as he wrote *Hamlet* or in Beethoven's to find expression in the *Ninth Symphony*, or the imagination which pictured the "Last Supper" to Leonardo before he transferred it to the chapel wall, or the vision of St. Francis in the Portiuncula, as but loftier expressions of that same creative urgency that stirs in the protoplasm everywhere . . . Living things are seekers and creators, and striving for goals is the essence of all life; . . . Man's feet are planted in the dust, but he lifts his face to the stars.' And, again: 'A scientist (Joseph Needham, *The Skeptical Biologist*, p. 40) has well likened such qualities in us to "a hum given forth by the bronze bell of man as it catches a note from the eternal harmony and thrills respondingly from base to rim." Should we not look upon these qualities, to which our spirits can so readily be attuned, as loft realities and worthy of our devoted loyalty?'

And now, to extend a little the number one item of our list, namely: The provision of opportunity for young doctors to learn anaesthesia. At the 1948 Annual Session of the California Medical Association, held in San Francisco, I said, 'I do really believe that the best of all that's new in anaesthesia is the new and widespread interest in the provision of opportunity for those who desire to learn anaesthesia.' I believe it to be our chief duty so to provide. The future of our speciality depends upon it. For each aspirant, let us increase the timeliness to unfold inclination and to develop thought. Then, with feeling, he, the young candidate, may heed these lines of Milton:

... , high are thy thoughts

O Son, but nourish them and let them soar
To what highth sacred vertue and true worth
Can raise them, though above example high;
By matchless Deeds express thy matchless Sire.

Paradise Regain'd, Book I

Recently the professor of anaesthesiology at the University of Iowa School of Medicine, Stuart C. Cullen (21), wrote that 'the truly significant advances have been the result of the introduction into clinical practice of new and revised fundamental concepts in basic sciences.' These quotations tend to strengthen the position of our number one development, and, it is most encouraging to note that, increasingly, more and more teaching centres are being

organized and that research in anaesthesia is being intensified. Augmentation in these directions has meant advancement of the speciality, has made it so that the other developments in anaesthesia did take place intelligibly and could be categorized as they have been, and, as well, gives assurance of continued growth and fruition. I shall not elaborate on the other subjects of the list but simply say that with a little reflection, one finds that each development catalyses others and a veritable network of causes and effects takes place not unlike the vast interlocking industrial network which provides food, vaccines, antibiotics and hospitals; not far removed from the homeostasis in social and ethical fields (22).

But let us heed the warning of Socrates about "vulgar virtue," the sort of outward respect paid to an accepted code of conduct by men who have no personal conviction of the supreme importance of the soul, and the identity of true happiness with its "health," and merely conduct themselves decently because the habits of their society require it of them, and they expect to be made uncomfortable if they behave otherwise. But this "vulgar" virtue is a mere illusory counterfeit of the true. True virtue is an affair of intense conviction, personal *knowledge* of the true moral "values" (23). That is, the *knowledge* with which Socrates identifies *all* virtue as one, namely, goodness, which is no speciality with its restricted domain; its sphere is the whole domain of human conduct. And, of course, a specialism is something which may be put to a good use or to an ill one. According to Plato and to Xenophon, both, such were the teachings of Socrates more than four hundred years before Christ.

To-day, the biologist, Edmund W. Sinnott, Professor and Chairman of the Department of Botany and Dean of the Graduate School of Yale University, in his book, *The Biology of the Spirit* (24), makes an 'adventurous attempt to bring together man's body, mind, and spirit as parts of a fundamental unity, three aspects of the same purposive, goal-seeking quality that is the distinctive feature of life at all its levels. . . . Man stands at the crossroads between matter and spirit. From this strategic post he sees lifeless, unorganized matter being drawn into the bodies of plants and animals and there transformed into organized, goal-seeking, living stuff. He sees a continuous and unbroken progression between this first step and the development of that most remark-

able of all animals, man, with his far loftier goals and aspirations. . . . The highest expression of man's life—the climax of the evolutionary process and still a biological fact—is his spirit, the inner, questing, desiring, aspiring part of him . . . the qualities that emerge in man which he regards as the highest that he knows, are the same *sort* of qualities he attributes to that greater Spirit in the universe. . . . The human spirit, he believes, is a bridge to the Divine. Man's spirit, rooted in life, may actually be a part of the Universal Spirit, emerging from it and returning to it again. . . . And if man's spirit is a part of that eternal Spirit in the universe, death may not exercise dominion over it. Just as it drew dead matter together to form the living body, so it may quit the body again and return to that unseen bourn from whence it came. . . . As to what life is and whence its characteristic organizing power arises, we are still without an explanation. Here for the present we can only be agnostic and admit that the problem is not solved. . . . The concept of the living organism makes it possible not only to bring body and mind into a unity but to recognize that man's *spirit* also has its source in the organizing, purposive, aspiring character of life itself. Life is the centre where the material and the spiritual forces of the universe seem to meet and to be reconciled. Spirit is *born* in life. Here is a solid foundation for a philosophy that is truly religious.'

In deference to Sinnott let us meditate these apposite lines of T. S. Eliot:

For Man is joined spirit and body,
And therefore must serve as spirit and body.
Visible and invisible, two worlds meet in Man;
Visible and invisible must meet in His Temple;
You must not deny the body.

Our gaze is submarine, our eyes look upward
And see the light that fractures through un-
quiet water.

We see the light but see not whence it comes.
O Light Invisible, we glorify Thee!

Choruses from 'The Rock'

Now, therefore, we have just cause for thankfulness and may be pleased that there has been such steady growth in anaesthesia. Let us hope that, as co-operation continues between the specialities, the individual may attain more scientific knowledge, be

guided by his felt needs and longings and aspirations, may enjoy the plural cultures of a civilization which holds closely to the doctrine of diversity of excellences as to that of the diversity of gifts. And, may he find support in reading Whitehead, the mathematician and philosopher, as he dealt with the final harmony of things in 'the secret of the union of Zest with Peace':

The Peace that is here meant is not the negative conception of anaesthesia. It is a positive feeling which crowns the 'life and motion' of the soul. It is hard to define, and difficult to speak of. It is not a hope for the future, nor is it an interest in present details. It is a broadening of feeling due to the emergence of some deep metaphysical insight, un verbalized and yet momentous in its co-ordination of values. Its first effect is the removal of the stress of acquisitive feeling arising from the soul's pre-occupation with itself (25).

REFERENCES

1. MURRAY, G.: Five Stages of Greek Religion, pp. VIII & IX. Doubleday & Company, New York, 1955.
2. STEWART, J. A.: The Myths of Plato.
3. CARRITT, C. F.: An Introduction to Aesthetics.
4. PINTO, V. DE S.: Crisis in English Poetry 1880-1940.
5. BOLGAR, R. R.: The Classical Heritage and its Beneficiaries, pp. 253 & 379. Cambridge at the University Press, 1954.
6. KING, THE RT. HON. W. L. MACKENZIE: Industry and Humanity, Houghton Mifflin Co., The University Press, Cambridge, Mass., 1918.
7. SULLIVAN, J. W. N.: The Limitations of Science, pp. 165 & 166. A Mentor Book, The Viking Press, 1933.
8. BARNETT, LINCOLN: The Universe and Dr. Einstein, p. 13. A Mentor Book, Harper & Brothers, 1950.
9. KIDD, F.: Almond in Peterhouse and Other Poems, p. 78. Cambridge at the University Press, 1950.
10. Ibid., pp. 4, 5 & 7.
11. ARMYTAGE, W. H. G.: Can Education Departments Educate? Universities Quarterly, 9: 388, August, 1955.
12. MORRIS, SIR CHARLES: The Idea of University Education, the Joseph Payne Memorial Lectures delivered at the College of Preceptors in London in February and March 1954. Universities Quarterly, 9: 364, August, 1955.
13. PINCHER, C.: Einstein: A Biographical Sketch. Discovery, 16: 230, June, 1955.
14. HENN, T. R.: The Apple and the Spectroscope, pp. 135-6. Methuen & Co. Ltd., London, 1951.
15. GALLIE, W. B.: Philosophy in Modern Universities. Universities Quarterly, 8: 153, 1954.
16. TAYLOR, A. E.: Socrates, the Man and his Thought, p. 139. Doubleday & Co., New York, 1954.
17. BURN, A. R.: The Place of Classics in School and University: VI. 'Arts' in Disintegration, p. 243. Universities Quarterly, 9: 232, 1955.
18. EVANS, B.: The Psychiatry of Robert Burton. Columbia University Press, 1944.
19. BOURNE, W.: Mysterious Waters to Guard, p. 144. Blackwell Scientific Publications, 1955.
20. SINNOTT, E. W.: Cell and Psyche: The Biology of Purpose, pp. 97 & 110, The University of North Carolina Press, 1950.
21. CULLEN, S. C.: Recent Advances in Anaesthesiology. Wisconsin Med. Jour. 50: 351, 1951.
22. BROWN, HARRISON: The Challenge of Man's Future. The Viking Press, 1954.
23. TAYLOR, A. E.: Loc. cit., p. 144.
24. SINNOTT, E. W.: The Biology of the Spirit, pp. 163, 165, 167 & 168. The Viking Press, New York, 1955.
25. WHITEHEAD, A. N.: Adventures of Ideas, p. 367. The Macmillan Co., New York, 1933.

Report

COMMITTEE ON MATERNAL AND CHILD WELFARE

Obstetric Section

The following case histories concern recent maternal deaths occurring in residents of the counties of Maryland. The actual summaries, as presented, represent an abstract of information submitted by the attending physician. The conclusions as to preventability and the statements expressed concerning the management of these cases represent the majority opinion of the members of the Committee and not of any one individual. It should be especially noted that decisions must of necessity be based entirely upon information furnished by the individual attending physicians. In certain instances it is quite probable that additional information concerning the case exists but was not known to the members of the Committee:

CASE I. The patient was a 20 year old para 2 with two living children, whose past general medical history was entirely non-contributory. The only positive information in her previous obstetrical history was the fact that in her second delivery there was retention of the placenta for approximately 30 minutes with employment of the Credé method of expression of the placenta. During the current pregnancy it is stated that the patient received no prenatal care. The reporting physician states that he first learned of this patient at 3:30 P.M. when he was called by the attending midwife stating that the patient was in labor. The physician went to the home and found an apparently normal patient with fetus in LOA and labor well established. She was given 100 mgms. of demerol intramuscularly by the physician, and following his departure the midwife delivered spontaneously a normal living child weighing ten pounds at 5:30 P.M. At 6:30 P.M. the midwife again called the physician saying that the placenta had not yet delivered. The patient was hospitalized and seen by her physician at 7:30 P.M., at which time she was stated to have been "in good condition." Under light ether anesthesia, manual removal of the placenta was carried out at approximately 8:30 P.M. She failed to respond following this procedure and without further excessive loss of blood, succumbed at 10:30 P.M. The anesthesia time was ten minutes, and at the time of manual removal the uterus was explored and it was definitely determined there was no rupture of the uterus. Total duration of labor is stated to have been approximately 17 hours. Autopsy was not performed.

Comment: Upon review of this case, the Committee felt that this was clearly a preventable death for a number of reasons. In the first place, this patient having received no prenatal care should not have been under the care of a midwife. The Maryland Midwife Law states in part, "It shall be unlawful for any person licensed as a midwife to attend any except normal cases of childbirth. . . ." The State Board of Health Regulations, under authority to issue regulations to implement the Law, further state, "All cases accepted for delivery by a midwife must be certified as suitable for a midwife delivery by a private physician or physician in county health department prenatal clinics." Since this patient had had no prenatal care according to the case history, the midwife was clearly violating the provisions of the above law and regulations. This law is called to the attention of all Maryland physicians. Although the number of midwife deliveries currently is small, approximately 1.5% of total Maryland births, cases of this nature are still occurring. It is worth pointing out that there is an additional reason, aside from absence of prenatal care, making this patient unsuitable for midwife delivery; namely, the fact that there had been third stage difficulty in a preceding labor. Postpartum hemorrhage and retention of the placenta are apt to recur.

In regard to her hospital management, the Committee felt that this patient had undoubtedly lost a considerable amount of blood prior to admission. Her blood picture, however, was not studied and blood transfusion was neither arranged for nor given. The Committee members felt that certainly hemoglobin determination and blood pressure readings should have been taken and recorded and immediate preparations made for administration of whole blood. In this way the patient's shock would have been combated, her presumed anemia corrected, and following this, manual removal could have been successfully and more safely undertaken.

Final Decision: Preventable on following grounds: 1) Should not have been midwife case; 2) improper evaluation on admission to hospital; 3) failure to correct anemia and combat shock by failure to administer whole blood.

CASE II. This patient was a 27 year old para 2 with two living children. Her previous obstetrical history is unknown. Her past medical history is significant in that she was known to have had chronic hypertension with blood pressures ranging between 240/120 and 220/100.

During the present pregnancy she made two prenatal visits to her family physician who found persistence of hypertension, but no albuminuria. He states the patient's condition was otherwise normal except for obesity.

The patient "insisted" on being delivered by a midwife whom she called at the onset of labor. After 48 hours of labor she was admitted to the hospital at 1 A.M. on February 14. Three hours later the patient was delivered spontaneously of a full-term living baby weighing 7 lbs. 15 ozs. at 4 A.M. on the day of admission. Following delivery the patient bled rather "freely." The blood pressure immediately postpartum was 186/120. She was given demerol, coramine and ergotrate, and soon thereafter went into profound shock. Following the administration of two pints of whole blood, the systolic pressure was recorded as 130. Subsequently she again lapsed into shock and died at 12:29 P.M., February 14.

Complete postmortem examination was carried out revealing the primary cause of death as pulmonary embolism involving the main pulmonary artery and major branches of same. In addition, there was pulmonary edema, mild chronic pyelonephritis, and acute endometritis and thrombophlebitis, the latter involving the uterine vessels. The attending pathologist felt that the embolus originated from the uterus. There was no evidence of amniotic fluid embolism.

Comment: This case report is purposely grouped with the preceding one, since it furnishes another example of a patient who should not have been under the care of a midwife (see comment case I). There is an additional violation of the Midwife Law in this case since midwives are required to report to a physician all cases of labor of more than 12 hours in a multipara. There are many deficiencies in the case history as submitted. The details of the patient's condition on admission are not known. She was given two units of blood, and since pulmonary embolus was discovered at autopsy, there is no reason for presuming there were other superimposed causes for death.

This was classified as a preventable death, however, from the point of view of a patient with known severe chronic hypertension being allowed to employ the services of a midwife. Had the patient been under

suitable medical supervision, with avoidance of a labor of 50 hours and with proper support and protection during labor, the Committee felt the outcome would have been altered.

Final Decision: Preventable on basis of: 1) Improper case for midwife delivery; 2) failure of midwife to report prolonged labor.

CASE III. This patient was a 27 year old multipara, parity not stated, whose last menstrual period began in early June. Her previous obstetrical and general medical history is non-contributory. The current pregnancy progressed uneventfully until approximately August 1, at which time the patient consulted her physician because of severe lower abdominal pain without vaginal bleeding. She was treated with demerol and penicillin on that occasion and became asymptomatic. On August 13th she suffered a recurrence of severe abdominal pain and was again seen by her attending physician who once again administered a narcotic.

On August 14th she was admitted to the local hospital at 5:15 P.M. Examination on admission revealed a patient who seemed markedly anemic and who was complaining of numbness and coldness of the lower extremities. Blood pressure in the accident room was 70/40, pulse 130, respirations 36, temperature 94°. Between 6:30 and 7 P.M. she was seen by a consultant, at which time her condition was essentially unchanged and the patient was receiving intravenous fluids. She was immediately cross-matched for blood and as soon as this was obtained and could be begun, immediate laparotomy was performed. At operation a right ruptured cornual pregnancy was discovered with approximately 3000 ccs. of blood in the peritoneal cavity. A wedge resection of the cornual portion of the uterus was performed and tubal ligation carried out on the opposite side. She was given 2000 ccs. of blood, plus 750 ccs. of 5% glucose in distilled water with levophed between 7 P.M. and the time of death. In spite of the therapy described above, the patient remained in severe shock, developed acute pulmonary edema, and succumbed at 11:50 P.M., August 14.

Comment: The Committee members had no criticism of this patient's management following her hospital admission. The Committee members, however, felt that this was clearly a preventable death on the basis of her management prior to admission. This patient with known amenorrhea of approximately eight weeks duration was seen on two occasions with severe lower abdominal pain requiring narcotics. It seems apparent no thought of possible ectopic pregnancy was entertained, nor was pelvic examination carried out to determine the presence or absence of an adnexal mass or evidence of intra-abdominal hemorrhage. The fact that the patient gave no history of vaginal bleeding was thought to

be no excuse for failure to suspect the true state of affairs.

Final Decision: Preventable on the basis of: 1) Failure on the part of the family physician to suspect ectopic pregnancy in a patient with amenorrhea and severe lower abdominal pain.

CASE IV. This patient was a 24 year old para 0 whose estimated date of confinement was January 29. She first consulted her attending physician during the second month of pregnancy and, in all, made a total of 20 prenatal visits. Her course was entirely normal and uneventful until January 20, at which time the blood pressure was noted to be 148/102. The previous blood pressure recordings had varied between 104/70 and 134/90. On January 20 the urine was negative for albumin, but there was two plus edema of the lower extremities with some puffiness of the hands and face. The patient had been on a salt restricted diet for one month prior to this date.

On January 27 the blood pressure was 132/102 and on this occasion the urine was found to contain three plus albuminuria. The puffiness of hands and face had disappeared and the patient was asymptomatic. On her next two weekly visits the blood pressures were recorded at 138/104 and on February 11 at 160/90. The urine consistently continued to show three plus albuminuria. The total weight gain during the pregnancy as of February 11 had been 37 pounds, being 232 pounds on that date. On several occasions during this three week period the patient had taken castor oil and hot soap suds enemas. Rectal examination on February 11 revealed the cervix 50% effaced, fingertip dilated, and the vertex presenting three finger-breadths above the spines.

The patient was admitted to the hospital on February 11 with mild contractions. Blood pressure on admission was 140/90, there was two plus edema of the legs, and the urine contained four plus albumin. At 11 P.M. on the date of admission, sterile vaginal examination was carried out revealing the cervix 4 cms. dilated; membranes had already ruptured prior to admission without the patient's knowledge. Contractions were of mediocre quality and progress was slow. At 4:20 A.M. on February 12, the patient had a generalized convulsion. Blood pressure at this time was 180/100 and was followed by a second generalized convulsion at 4:30 A.M. She was given sodium nembutal, grs. iv, intravenously, and 4 ccs. of 50% magnesium sulfate intramuscularly. After consultation, the decision was reached to begin intravenous pitocin drip, under which regime full dilatation was reached at 6:25 A.M. At 7 A.M. she was delivered spontaneously with episiotomy of a living male infant weighing 6 pounds 13 ounces, in good condition. The placenta was delivered at 7:15 A.M. and blood loss was not excessive. During delivery the blood pressure remained stable at 160/100, but at 7:40 A.M. began to drop and by 8:10 A.M. could not be obtained. Emergency measures consisting of forced oxygen, intravenous fluids with levothel, and the employment of a cardiac pacemaker were to no avail, and the patient was pronounced dead at 9:30 A.M.

Permission for autopsy was obtained and findings both grossly and microscopically were reported completely negative.

Comment: The Committee members felt that there were two serious errors in the management of this case. The first of these was that the patient was allowed to remain at home with definite evidence of rather severe preeclampsia for at least three weeks too long. The evidences of preeclampsia were quite clear, namely, excessive weight gain, hypertension, and three plus albuminuria. It was felt that with a clinical picture of this severity, immediate hospital admission was indicated and that lack of response to conservative therapy when hospitalized would have been a definite indication for termination of pregnancy.

Secondly, upon her ultimate admission to the hospital in labor, even though at that time the blood pressure was not appreciably elevated, none the less, with the previous history, the edema, and the presence of four plus albumin in the urine, immediate heavy sedation should have been begun. Had the sedation been adequate from the time of admission, or had antihypertensive drugs been employed, it is quite probable the onset of convulsions could have been avoided.

Final Decision: Preventable on the basis of: 1) Delayed hospitalization for moderately severe preeclampsia; 2) inadequate sedation and control of hypertension in labor.

CASE V. This patient was a 38 year old para 1 with one living child. Her previous delivery had occurred eight years before the present pregnancy, at which time after a 19 hour labor she was delivered of a living 6 pound 3 ounce infant. During her first pregnancy there was a history of hypertension, severity unknown. Her past medical history, aside from hypertension and obesity, is non-contributory.

Her attending physician first saw the patient approximately one year before the present pregnancy. Her complaint at that time was obesity, and examination revealed the weight to be 192, height 5' 3", and blood pressure 200/120, with two plus albuminuria. She was placed on a reducing program and within six months lost nearly 42 pounds at the end of which time the blood pressure averaged about 160/80.

Shortly thereafter conception took place with the last menstrual period beginning July 5. The pregnancy was accompanied by gradual gain in weight and gradual rise in blood pressure so that by the 28th week the blood pressure had reached 190/110 and the weight 178½. She was, however, completely asymptomatic. In mid January, at which time the pressure had reached 190/110, hospitalization was advised but refused by the patient. On February 5, because of continued hypertension, with much persuasion she finally consented to enter the hospital. On bed rest, Diamox, Apresoline, Serpasil, and salt poor diet, the blood pressure became stabilized at

around 170/90 and after five days she was allowed to return home at her insistence. Medication as prescribed in the hospital was continued at home. During this hospitalization she was seen by a consultant who felt that termination of pregnancy was not indicated at that time.

After returning home, the patient's blood pressure ranged between 170/90 and 180/110 and there was moderate generalized edema. Except for occasional headache, she was asymptomatic. On February 28, pelvic examination revealed a soft thick cervix with no dilatation. X-ray pelvimetry was obtained revealing a large normal pelvis. Once again, induction of labor was considered but was thought inadvisable.

On March 15 the patient fell into labor spontaneously and was immediately rehospitalized, being admitted at 12:10 A.M. on March 16. Following admission her pressure rose rapidly to levels of 250/120 and she became restless. She received Demerol and Seconal at this time and magnesium sulfate intravenously. At 4:15 A.M., approximately four hours after admission, the patient suffered a severe generalized convulsion lasting about eight minutes. She never regained consciousness following this convulsion. Full dilatation occurred soon thereafter and at 4:55 A.M. she was delivered by breech extraction of a stillborn infant weighing 5 pounds 2 ounces. She remained in deep coma with superimposed shock following delivery. Vaginal bleeding persisted for 8 to 12 hours postpartum, but was finally controlled by the use of fibrinogen. In spite of the administration of whole blood, plasma and albumin, she remained in shock and had several milder convulsive seizures. Urinary output was virtually nil, she became icteric and succumbed at 12:45 A.M., March 18. Permission for autopsy could not be obtained. The causes of death on the death certificate are listed as toxemia of pregnancy, chronic nephritis, essential hypertension, and obesity.

Comment: In review of this case, the Committee members felt that the attending physician was undoubtedly handicapped by a rather uncooperative patient who was apparently quite reluctant to be hospitalized and equally persistent in her efforts to be discharged. The first major error, therefore, lay in this patient's having been discharged from the hospital in February after only five days of observation and evaluation. However, at this time further

studies should have been carried out including kidney function tests, blood chemistry determinations, and examination of the eyegrounds. Had these been carried out, definite evidence of impaired renal function might have been detected and given the physician additional arguments for urging continued hospitalization.

The case history is not complete regarding the patient's condition during the two weeks just prior to the onset of labor and several of the Committee members would have liked to have known more about the exact state of affairs during that period of time. In any event, it seemed apparent to the Committee that her hypertension was not well regulated, otherwise her blood pressure would not have risen so rapidly to levels of 250/120. Lastly, it was felt that the patient had not been adequately sedated in labor.

Since autopsy was not performed, there was considerable speculation regarding the terminal cause of death. It would be hard to state unequivocally that this patient did or did not develop eclampsia superimposed on her chronic hypertensive processes. Massive cerebral hemorrhage without eclampsia could have produced the same clinical picture. Fibrinogen is stated to have ultimately controlled persistent postpartum bleeding, but there is no mention made of fibrinogen levels. There was some discussion as to the possibility of transfusion reaction being involved in the picture, but the general consensus of opinion was that her anuria was compatible with the picture of fulminating preeclampsia or eclampsia.

Final Decision: Preventable on the following grounds: 1) Unwise discharge from hospital without adequate evaluation of renal and vascular systems (partially patient's responsibility); 2) inadequate sedation and control of hypertension upon admission in labor.

THE PATIENT, THE DOCTOR AND THE INSURANCE CARRIER—RELATIONSHIP

CALVIN HYMAN, M.D.

Just as good relationship with the patient has always been a goal of everyone in the medical profession, good relationship between the doctor and the insurance carrier for the patient or the employer, or union to which the patient belongs, has more recently been our aim. Much has been accomplished by various means. At times, however, this relationship may have been strained by a lack of understanding and exchange of confidences in the matter of insurance fees for services rendered the patient by the doctor and thus due the doctor. Most patients now have insurance coverage whether it be individual or through employer groups or unions. The Blue Shield plan operates under ideal conditions since it is understood by the patient, the doctor and the insurance carrier that the insurance due the doctor for services rightly belongs to this doctor and is therefore paid directly by the insurance carrier to him.

However, obstacles to good relationship along these lines up to several years ago with insurance carriers other than Blue Shield were manifested in the failure of the insuree and insurer to realize fully, if at all, their obligations to the physician rendering the service for which the policy covered the patient. This is an understandable human frailty on the part of the patient which must be conceded, and at times the latter balked stubbornly at signing an authorization for the insurance carrier to pay fees due him, directly to the physician. Patients may have felt that undue advantage could have been taken of them by the physician collecting all of the proceeds due them according to their policies. This relationship between doctor and patient became a matter of

personal confidence and also became the duty of the physician to explain fully the meaning and limits of the authorization. In due time most insurance carriers also saw the light and most always now by sections in their insurance forms invite the insuree to sign an authorization for them to pay checks directly to their attending physician and which they honor promptly and without reserve.

But resistance is still forthcoming from several employer groups or unions which carry the master policies for their patients. The former have often specifically refused to honor a patient's authorization and prefer, so they say, to pay the patient directly, even though the patient has expressed willingness to cooperate financially with his physician.

This of course encourages disrespect, if not frank procrastination, on the part of some patients who are so inclined. It is this latter state of affairs which must be solved. Amicable, mutual agreement is the desire of all of us in the medical society. Since there is no criminal code violated by the action of the employer group or union, when they refuse to honor such authorizations, moral persuasion may be in order.

Surely the medical society which is the very heart, brain and source of power of the practitioners should command respect and its desires should be met at least in part by all concerned.

A method of reasoning by the representatives of our medical society with the uncooperative could probably in some way bring light to the unenlightened.

2356 Eulaw Place
Baltimore, Maryland

Component Medical Societies



ALLEGANY-GARRETT COUNTY MEDICAL SOCIETY

LESLIE E. DAUGHERTY
Journal Representative

POLIO CAMPAIGN

Allegany-Garrett County Medical Society agreed to participate in the all out campaign to have everyone between the ages of 20 and 40 vaccinated against polio, during the period of March 1st. to April 15th. Dr. H. W. Eliason, Cumberland, was chairman of the Committee.

In Allegany County there are 20,707 eligible persons between the age of 20 and 40 and 32,640 persons



Members of Polio Vaccine Committee: Drs. W. O. McLane, W. A. VanOrmer, B. Skitarelic, Jennie Graham, Sec'y to Dr. W. R. Frantz, Allegany County Health Officer, Dr. R. Reiter, and Chairman, Dr. H. W. Eliason.

up to 19 years of age. In Garrett County, there are 5,846 in the 20 to 40 age group and 8,770 eligible persons up to age 19.

During the month of March in Allegany County, it is estimated that a total of 12,142 persons in the schools, up to age 19, received their first, second and third shots. Except for supplies furnished for the student body and staff of Frostburg State Teachers College, under the supervision of Dr. W. O. McLane, the shots were given in the school clinics conducted by the Health Department.

Included were 961 first shots, to those in the 5 through 9 age group, 382 second shots and 1,270 third shots. The third, or booster shots, completed the protection for virtually all students in the first four grades. A total of 4,783 shots were given to students in the 10 through 14 age group. Included were 3,291 first shots, 514 second and 952 third shots. The 15 through 19 group received 3,783 shots. They included 3,339 first, 154 second and 290 booster shots.

In other clinics, the Health Department during March gave 846 shots, including 47 to expectant mothers.

The second half of the school program began April 8 and by April 15th., was completed in 10 schools of the county.

In Garrett County, during the month of March, there were approximately one thousand and seventy-two persons up to age 19 years of age, given shots. No vaccine was supplied for persons between 20 and 40 years of age.

MINERS HOSPITAL NAMED BENEFICIARY IN TRUST FUND

The Miners Hospital, Frostburg, Md. has been named beneficiary in a trust fund set up at the death of Charles L. Gross, Cumberland, a former resident of Frostburg, amounting to \$195,000. According to the terms of the trust, the Miners Hospital will receive one half of this trust fund upon the demise of a person now receiving the income from the fund.

This money will be of great assistance to the hospital, when it becomes available and judging from the public's generous response to the recent appeal for funds for the purchase of an electrocardiograph machine to be used there, such bequests may be expected, when Miners Hospital is no longer a state institution.

Dr. W. Oliver McLane, is president of the Staff of Miners Hospital.

* * *

There was one subject on which Sir William Osler would not listen to, and that was when something was said which reflected on another physician.

DR. LEY ADDRESSES PARENT-TEACHER'S ASSOCIATION

Dr. Leo H. Ley, Jr. addressed the Parent-Teachers Association on Founders Day, at the Centre Street Public School. Centre Street School is one of the oldest schools in Cumberland. Dr. Ley's subject was "How To Keep Your Child Healthy."

Dr. Ley also participated in a question and answer program following the showing of a film on cancer, at a recent meeting of the LaSalle High School Mother's Club, in Cumberland. Dr. Ley is Assistant Director of Medical Civil Defense, in Allegany County and is Vice-president of the Staff of Sacred Heart Hospital, in Cumberland. He recently attended the 9th. Annual Assembly of the American Academy of General Practice, in St. Louis, Missouri.

BALTIMORE CITY MEDICAL SOCIETY

CONRAD ACTON, M.D.

Journal Representative

The Executive Board met Tuesday, 19 March for a short session in marked contrast to the lengthy sittings of prior months.

A letter was read from a Baltimore County group concerning the prospect of a proposed union-sponsored, closed-panel group giving "complete" medical service to hourly employees of a large industry. It was appreciated by the Board that this type of plan, budding near Baltimore, had been brought to its attention. Baltimore City Medical Society's lack of jurisdiction was keenly felt. However, it was decided to write industry and individuals involved for factual data and invite them to inform the Board of their activities. If it turns out to be a tumult between competing local groups, one of which got a contract that the other wanted, Baltimore City Medical Society is little interested. If it turns out that a corporation, however big, is practicing medicine anywhere in the State against the law that prohibits corporate practice of medicine, then it should be brought promptly to the attention of the Attorney General by any physician or organization that has factual knowledge.

Dr. Herman K. Goldberg presented the ophthalmologists' request for specialty listing in the telephone directory. This request was based on the

action of a committee in the Section of Ophthalmology and ascribed to the fact that as the current directory shows under "EYES—EXAMINING" the notation only *See "Optometrists;" also "Physicians & Surgeons, M.D.,"* identifying optometrists as treating eyes, while ophthalmologists are not specified. This was felt to be not in the best interests of public health. Studies have conclusively shown that eye diseases are not diagnosed by optometrists. The discussion was highlighted by distribution of "Yellow Pages" from cities that do list physicians by specialties. The one from Montreal was considered particularly bizarre. As customary, the project shipwrecked on the question of who should establish the criteria on which the specialty listing is based. Should the physician call himself an "Eye Surgeon" simply because he wants, without other qualification, to treat eyes? Should "Eye Surgeons" be only those who are Board certified? Should they be only the Board certified ones who are members of our Section on Ophthalmology? None of these methods seems quite fair to the public or the profession. Some querulous members of the Board called attention to the time it takes now to get an ophthalmological consultation. The problems and current practices in the care and handling of acute eye emergencies were gone into in some detail. It was felt that before the ophthalmologists came out of hiding they should face the problem of an increased case load without increasing the waiting period. Before any formal action was taken, Dr. Goldberg asked that the request be tabled until he could take the Board's point of view to his Section's committee for consideration.

FREDERICK COUNTY MEDICAL SOCIETY

LOUIS R. SCHOOLMAN

Journal Representative

The March meeting was held at the Francis Scott Key Hotel. Dr. Sam Bessman, assistant professor of pediatrics at the University of Maryland, spoke on recent advances in the understanding and treatment of diabetes. The concepts of the role of the liver and pancreas in diabetes were well pre-

sented. His historical review of oral "hypoglycemic" drugs was timely and thought provoking.

The medical staff of the Frederick Memorial Hospital met to elect new officers. Those elected were: Dr. Thomas Quill, president, Dr. Jesse Fifer, vice president and Dr. Harry Chase, secretary. Following the business meeting Dr. Thomas Stone discussed a case of tularemia and Dr. A. M. Powell a case of cat scratch fever.

At the meeting of the surgical department three deaths were discussed. Dr. John Culler reported a case of congestive heart failure and lower nephron nephrosis postoperative to cholecystectomy, and fatal bronchopneumonia in a case of fractured right femur. Dr. Melvin Lea reported a case of a gunshot wound of the left chest which caused massive air embolism of the right atrium, ventricle and pulmonary artery.

At the obstetrical department meeting Dr. Stoner reported a case of stillborn in a 16 year old primipara with breech presentation. Drs. Brice and Gray reported two cases of fetal atelectasis.

The medical and pediatric departments held a joint meeting at which fatal cases were reviewed. Dr. Heldrich had three hyaline membrane abcess in prematures, Dr. Stoner a carcinoma of the pancreas with ascites and Dr. Chase massive cerebral hemorrhage with hyperglycemia.

The C.P.C. was a case of uremia in a chronic pyelonephritic with a congenital single kidney. She had long standing acidosis which caused extensive osteoporosis. Dr. Furie then discussed azotemia and the pathologic physiology of the several types.

PRINCE GEORGE'S COUNTY MEDICAL SOCIETY

JOHN W. PERKINS, M.D.

Journal Representative

The monthly meeting of the Prince George County Medical Society was held on April 2, 1957 at the offices of the Suburban Trust Company following a dinner held in the bank's cafeteria. The meeting was called to order by our president, Dr. Hans Wodak, at 8:30 P.M.

The minutes of the March meeting were approved without being read, after which Dr. Wodak introduced our host for the evening, Mr. T. Howard

Duckett, Chairman of the Board of Suburban Trust Company. After an explanation of the bank's services to the community, the Society's membership was taken on a tour of the new Administration Building. The regular business meeting reconvened following the tour.

Communications from several sources were read and/or noted by the Secretary.

Under unfinished business the following items were brought before the membership:

1. With regard to clinical laboratories, Dr. Wodak informed the group that Med Chi recommends referrals only to those clinical laboratories which are under the supervision of a licensed physician.

2. Dr. Wodak read telegrams which had been received concerning legislation initiated but not passed by the Maryland House of Delegates.

3. A letter from Mr. McGovern of Medical Service of the District of Columbia was read to the Society. In reply to our previous letter, Mr. McGovern stated that the Board of Trustees of Medical Service could not be increased at this time but he recommended the appointment of a consulting representative to attend the meetings. At the conclusion of the discussion, Dr. Wodak appointed Dr. John S. Haught to serve in this capacity.

4. A report concerning Miss Kathryn Mason from the Duke University School of Nursing was read to the membership. Miss Mason is a recipient of this Society's nursing scholarship. Her work is satisfactory to date.

5. It was announced that the Ninth Annual Meeting of participating physicians in the Medical Service Plan of the District of Columbia would be held April 17, 1957. All participating physicians were urged to attend.

6. A notice from Dr. Diggs, Secretary of Med Chi, invited the membership to attend the annual meeting of the State Medical Society which will be held on May 1, 2, and 3, in Baltimore.

7. The request of Mr. Dulin, President of Good Will Industries, requesting the name of a Society member to serve for one year on their Advisory Committee, was discussed and on motion made and duly carried, Dr. S. Jack Sugar was appointed to serve another year on the Committee.

Under New Business, the Society next heard from Dr. Wolcott Etienne, who gave us a list of proposals concerning a change in the organization

of Med Chi's Planning Council. On a motion made and duly carried, Dr. Etienne was empowered to contact our delegates with a favorable report on the proposals.

The following applications were noted for the second time and given their final reading after favorable action by the Board of Censors: Dr. George W. Comstock for affiliate membership and Dr. Leo T. Brown for associate membership.

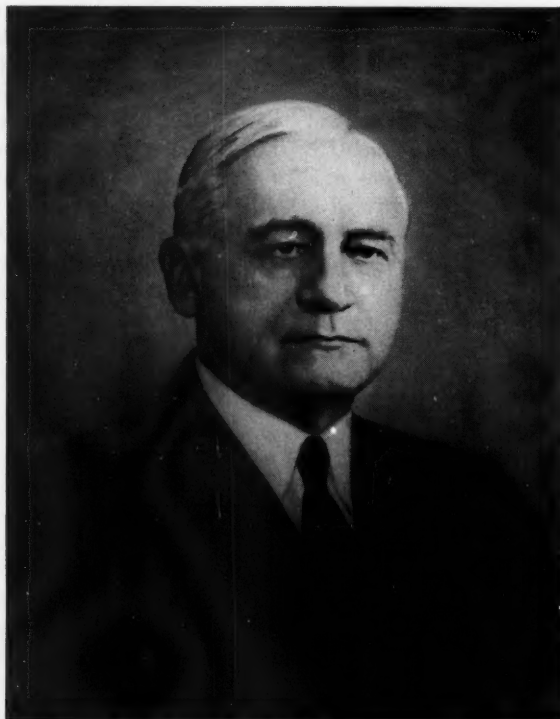
Approximately 25 of our members and their wives (or sweethearts) were taken on an all expense paid tour of the Lederle Laboratories Plant in Pearl River, New York beginning on Thursday April 11, 1957, and lasting until Sunday April 14, 1957. The group was bedded down in New York City and saw many shows and plays. The Society wishes to express its thanks to Mr. Benjamin M. Bollinger and the Lederle Laboratories for a most enjoyable weekend.

ANNOUNCEMENT

The NEW YORK MEDICAL COLLEGE, Flower and Fifth Avenues, Hospitals Division of Graduate Studies, Department of Graduate Pediatrics, announces a POST GRADUATE COURSE IN PEDIATRIC ALLERGY, under the direction of BRET RATNER, M.D., Professor of Clinical Pediatrics and Associate Professor of Immunology, November 6, 1957-May 28, 1958 (thirty sessions) on Wednesday, 9:00 A.M.-4:00 P.M. Fee, \$300.00. Applicants must be certified in pediatrics or have the requirements for certification.

Apply: Office of the Dean
NEW YORK MEDICAL COLLEGE
Fifth Avenue at 106th Street
New York 29, N. Y.

Necrology*



DR. EMIL NOVAK

Emil Novak, M.D.

1883-1957

At the turn of the Nineteenth Century, from the simple, humble surroundings of an East Baltimore home, there appeared the figure of Emil Novak, whose genius and determination took him to the top of his profession, and whose humanity and humility endeared him to everyone with whom he came in contact. His early years prepared him for a life of hard work under any circumstances. His father, Joseph Novak, a tailor, was not affluent and Emil's early schooling often demanded that he walk ten or more miles a day. At one time it even appeared that he might have to forego an education. When

his father felt the economic strain of his large family, Emil, being the eldest child, was required to help out in the shop. However, even at this early age his innate talents must have been apparent, for several friends persuaded Joseph to allow Emil to return to his studies and to his reading, at which he spent every possible moment.

At the age of twenty years, when today's student is in the sophomore or junior year in college, Emil Novak graduated *magna cum laude* and received his degree of Doctor of Medicine from the Baltimore Medical College. It was several years later that he was awarded his academic degree from Loyola College. After a one year residency—an honor bestowed upon him for graduating first in his class—Emil began his practice in the basement of 800 North Broadway in 1905. Life was no bed of roses for the young obstetrician of 1905, as evidenced by

*Memor Committee: A. S. Chalfant, M.D., *Chairman*, John F. Hogan, M.D. and Robert H. Riley, M.D.

his first case, a hunchback, whose drunken husband awakened him in the wee small hours and escorted him on foot to the country in the easternmost reaches of Monument Street. As the inebriated husband-anesthetist nodded over the chloroform, the budding genius' only bright spot was the presence of several small children arranged in various areas of the room, presumptive evidence of other successful obstetrical efforts. The satisfactory outcome of this case, for which he received no material compensation, was the pattern of his life; that is, success regardless of the obstacles, but always flavored by compassion for his fellow man.

The honors which were heaped upon Emil Novak since those early days would fill volumes. He received honorary memberships in professional societies of Athens, Bolivia, Brazil, Budapest, Buenos Aires, Edinburgh, France, Mexico and San Salvador and received invitations to many others. The most noteworthy honor in this field came in 1948, when the Royal College of Obstetricians and Gynecologists awarded him an honorary fellowship, a distinction afforded rarely to a citizen of the United States. Honorary degrees of Doctor of Science were conferred on him by Trinity College, University of Dublin and Tulane University. In 1925 he became a member of the Americal Gynecological Society, and in 1947 he was elected its president, the pinnacle of success in the field of American gynecology.

Following his "residency" at Maryland General in 1905, Emil Novak became Associate Professor of Gynecology at the Baltimore Medical College, a position which he continued to hold through the transition of that school to the College of Physicians and Surgeons of Baltimore, and finally to the University of Maryland Medical School. At the Johns Hopkins he was Assistant Professor of Gynecology from 1915 until the emeritus rank was conferred upon him on retirement at the age of sixty-seven years. Although much of his work in pathology was done at the Johns Hopkins, his clinical gynecology was practiced at Bon Secours Hospital for the most part, where he was Gynecologist-in-chief from 1939.

Locally, we are proud that Emil Novak was the first president of the Obstetrical and Gynecological Section of the Baltimore City Medical Society in 1929, an organization he was instrumental in forming

against rather powerful opposition. In 1951, when the entire State of Maryland was included in the Obstetrical and Gynecological Society of Maryland, he was reelected president, a unique honor in the annals of medical societies. No one could have been more deserving of such a token of esteem, for in spite of many demands on his time, from near and far, Emil Novak rarely, if ever, missed a meeting of the local society.

As a small token of the respect, admiration and affection felt for him by his local colleagues, a portrait was presented by the society to the Medical and Chirurgical Faculty of the State of Maryland in December 1956. By God's favor, he was able to attend and his acceptance speech was a masterpiece of humility and gratitude.

Emil was blessed with a fantastic memory and a wonderful ability to organize his thoughts clearly and concisely. These characteristics made writing easy for him. Not infrequently the first draft of an article, written in longhand, as all first drafts were, would need no revision. It was only natural that with these talents Emil would make frequent contributions to the literature. Such was the case, and many an article was published from 26 East Preston Street during the last forty years.

Of more importance than these, however, are the two outstanding texts; namely, *Gynecologic and Obstetric Pathology*, first published in 1940; and *Textbook of Gynecology*, published in 1941. These two books have become the leading texts of their kind and are found in many corners of the world beyond the shores of North America. The *Textbook of Gynecology* is now used by approximately three-quarters of the medical schools in this country as the book of choice for the student. As monumental works as these are, probably the most outstanding feature is that they were written by Emil Novak, complete with bibliography and illustrations, in less than a year! A fantastic feat accomplished only by the combination of talent and hard work. Edmund, his son, who was in practice with his father since 1950, and who coedited the *Textbook of Gynecology* in recent editions, inherited many of his father's abilities and faces the tremendous task of carrying on the tradition.

As inborn as many of his abilities were, there were others at which he had to work hard to attain

success. Emil's oratorical prowess made him not only sought after for addresses at medical meetings, but also as an after dinner speaker. Many, including myself, felt that such a talent was innate. Several years ago, I commented on this to one of my older colleagues and was amazed to learn that such was not the case; but rather that Emil had forced himself to get on his feet and speak on every possible occasion in order to overcome his speech difficulties, which were said to be great in his early years.

Although his tremendous store of knowledge and his elevated position in the medical world would have given him the basis for being severely critical of much of the medical writing of the day, his comments were constructive, witty and provocative. These characteristics went far in popularizing the Obstetrical and Gynecological Survey, which he and his great friend, Nicholson J. Eastman, jointly edited for many years. This ability to be constructive rather than destructive in his criticism, coupled with his real love for his fellow man, evidenced the humility of Emil Novak, a characteristic of the truly great.

In spite of the outstanding professional accomplishments and honors, Emil Novak will be remembered most warmly by many of his associates,

especially the writer, in the surroundings of 5223 Springlake Way. His home seemed always open and his wonderful wife, Elizabeth, was called on frequently to entertain at a moment's notice some visiting colleague who was "just in town for the day." Here, my wife and I were treated as members of the family, and we often dropped in for a cocktail before dinner and to absorb a bit more of the wonderful warmth and congeniality of the Novaks. Here on Sunday afternoons gathered the Novak clan; Betty and Bill Schmick, with Betty Ann, Billy, Mollie and Johnny; Ed and Jean, with Roge and Dave; for a few hours of close companionship with "Liz and Boppy," under the careful eye of Mamie, Emil's sister, who took care of everyone's least desire.

Emil Novak could have been describing his own life, as he wrote these words about his great friend, Robert Meyer: "He found his niche in life comparatively early; he enjoyed his work; he achieved eminence in it and won the respect and esteem of all workers in the same vineyard; he was blessed with happiness in his married life and in his family and friends."

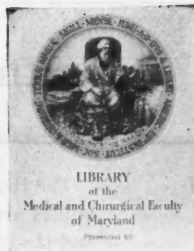
J. D. Woodruff, M.D.

DIABETIC FILM AVAILABLE

The film, "Urine Sugar Analysis for Diabetics," developed in cooperation with the medical profession, is available at no charge to the Medical and Allied Professions through the Ames Company, Inc.

The film was made as a visual aid to be used in the education of diabetic patients and shows the relationship between carbohydrates and insulin. It also explains in lay language the meaning of various diabetic conditions. It has been produced on 16 mm. film in color and sound track with a running time of approximately 10 minutes. Appropriate "hand-out" literature accompanies the film.

Showing at Diabetic Clinics, Diabetic Lay Societies and other diabetic groups must be requested by the Medical or Allied Professions to Ames Company, Inc., Elkhart, Indiana, or an Ames representative



Library

Louise D. C. King *Librarian*

"Books shall be thy companions; bookcases and shelves,
thy pleasure-nooks and gardens." *Ibn Tibbon*

"Except for the writer of what may be called an 'occasional piece,' he who brings about publication in a learned journal of an article by himself, which neither contains anything new nor sheds new light on anything old, performs an unethical act and may expect it to be remembered to his discredit".*

In the early part of the 20th century Sir William Osler used to encourage his students, his staff and his friends to publish articles on their interesting cases and special research projects. In those days, the media through which such items could appear, were fewer and the competition was not so great. By 1957 so much scientific material is being published by organizations, as well as by individuals, that even in certain specialties it is impossible for the busy doctor to keep abreast of the newer developments in medicine, which in turn has resulted in the increase of review and abstract literature. This redundancy means that what is printed not only ought to be on subject matter of outstanding interest but also should be well written and properly pre-

sented so that the salient facts are brought out, and the reason for publishing at all, clearly indicated.

Among the many books written to aid the budding author, as well as the one who has been writing for years, is a new one by Richard M. Hewitt, *The Physician-Writer's Book*; tricks of the trade of medical writing. Publishers, W. B. Saunders Company, 1957, Philadelphia, Pa.

This is a most comprehensive guide and manual for scientific writers, and takes care of all contingencies as would be expected of the author, who is senior consultant, Section of Publications of the Mayo Clinic and whose past experience as assistant editor of the *Journal of the A.M.A.*, editor of material for the National Research Council and other experiences would indicate.

Our heart was particularly gladdened by chapter 4, "Ready help for the author of the article or book," which has a paragraph on "The Librarian." It is full of good advice and may well be a guide, whether you are writing an article or just searching the literature for your own edification.

*Quoted from Hewitt—*The Physician-Writer's Book*.

Health Departments

BALTIMORE CITY HEALTH DEPARTMENT

70 Per Cent Polio Inoculated Under 20 Years of Age

The physicians of Baltimore and the City Health Department, with other medical, hospital and related agencies, have urgently sought to bring the protection of polio vaccine to all of the city population under 20 years of age before the summer polio season. At the mid-April point careful estimates showed that one or more doses of the vaccine had been given to approximately 70 per cent of those less than 20 years old in the city.

To indicate the progress in this battle since its inception on April 18, 1955 the Baltimore figures on doses inoculated as reported to the City Health Department are as follows:

Summary of Poliomyelitis Inoculations Reported Since April 18, 1955

Period	Private Physicians	Health Department Clinics*	School Program	Hospital Clinics†	Total
1955 (April 18-Dec. 31)	17,330	—	67,952		85,282
1956 (Jan.-Dec.)	90,490	(2,414)* 130,038	1,433		224,375
1957 (Jan.-April 11)	32,230	(1,338)* 33,029	78,042	51,941	196,580
Cumulative, Since April 18, 1955	140,050	(3,752)* 163,067	147,427	51,941	506,237

* Inoculations of pregnant women at the Prenatal Clinics are given in parenthesis.

† Includes 1,313 inoculations reported by industrial clinics.

For children, the City Health Department motto is IF YOU'RE NOT PROTECTED, YOU'RE NEGLECTED.

Huntington Williams, M.D.

Commissioner of Health

WHERE DOES THE CHRONICALLY ILL PERSON BELONG?

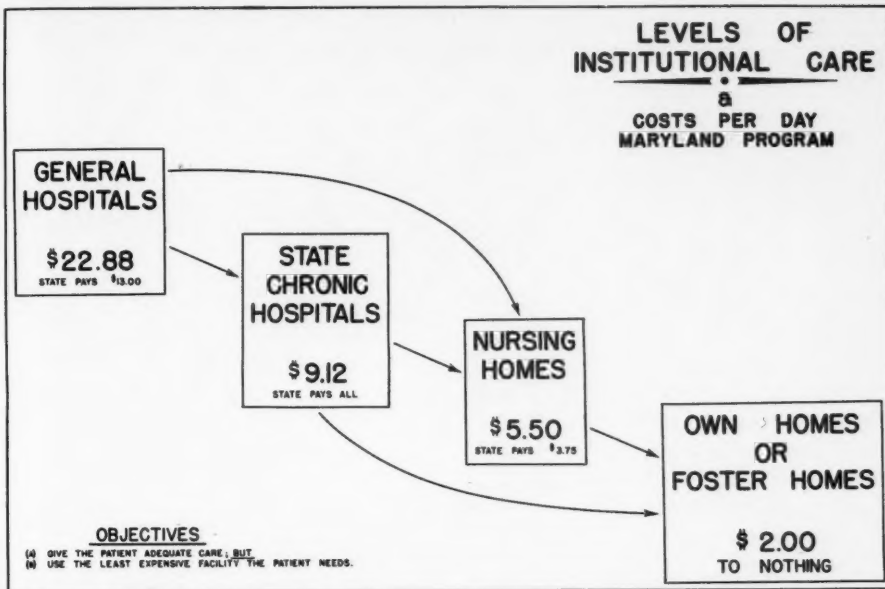
The need for long-term care of chronically ill and infirm people has grown in recent years. All available data indicate it will continue to grow.

The Health Department's chronic illness responsibilities are vested in a Bureau of Medical Services and Hospitals. Under its present director, Dr. V. L. Ellicott, this Bureau operates not only the three Chronic Hospitals (Montebello in Baltimore, Deer's Head at Salisbury, and Western Maryland at Hagerstown) but also the Health Department's home and office Medical Care Program in the twenty-three counties and, on a State-wide basis, the Inpatient and Outpatient Hospital Programs in the Hospital and Nursing Home Licensing and Construction Programs.

The State Board of Health in establishing policies is aided by an Advisory Committee on Chronic Illness. This Committee also carries the responsibility of maintaining affiliations between the Health Department's Chronic Hospitals and Baltimore's various teaching hospitals.

While the Health Department's principal responsibility in chronic illness is that of operating Chronic Hospitals, it also carries an obligation to serve and aid the patient who needs some other form of long-term care. The medical care of the indigent and the medically indigent nursing home patient, for example, is assumed to be such a responsibility. For this reason it is included in the Health Department's home and office Medical Care Program. The Department is interested in seeing that each patient gets the type of care that he needs. The chart shows how an improving patient can move progressively to less expensive facilities.

The upper figures in the squares show the average daily cost of care. The difference between this and the amount paid by the State in the general hospitals is made up to some extent by the Baltimore City supplementary payments of \$4.00 per day and by payments from the counties; the rest of the cost has to be carried by the hospitals. The Chronic Hospitals are operated by the State Health Department; therefore, the actual cost and the cost to the State are the same. The \$5.50 per day Nursing Home cost is based on studies of the amount necessary to provide adequate care. This is approximately \$1.75 per day more than the average payment for the care of Welfare patients. Since most Nursing



Homes have no outside funds to make up such losses, they are therefore obliged to adjust their operating costs to payments received. Payments to Foster Homes can be made to a maximum of approximately \$2.00 per day. Whenever a family has some resources, the patient and responsible members of his family are required to make payments (of the amounts determined by the Department of Welfare) toward the cost of the patient's care either in a Chronic Hospital or in a Nursing Home.

While the first obligation toward the chronic patient is that of adequate care including rehabilitation, financial aspects are also important. Economy of operation demands the use of the least expensive facility needed by the patient. The patient may move a number of times from one institution to another. Ample space in a less expensive facility makes it possible to move a patient out of a high-cost accommodation as soon as medically indicated. This relieves congestion of chronic patients in general hospitals. When an appropriate Nursing Home bed is available a patient often can be discharged earlier from a Chronic Disease Hospital. While most pa-

tients discharged from Chronic Hospitals are well enough to bypass the Nursing Home and go directly to their own home or that of a relative, a good many are still sick enough to need a nursing level of care. If Nursing Home space is not available, the patient must either stay in the Chronic Hospital as a custodial patient, or be discharged to a facility, such as a Foster Home. When this happens he cannot be adequately cared for. There is need for close cooperation between the physician who treats the patient in the community, the staff in the Chronic Hospital and the administrators in the Health Department, to find in each instance the right answer to the question, where does this chronically ill patient belong?

Henry H. Hatcher

Director

STATE OF MARYLAND DEPARTMENT OF HEALTH
MONTHLY COMMUNICABLE DISEASE REPORT

Case Reports Received during 4-week Period, May 3-30, 1957

	CHICKENPOX	DIPHTHERIA	GERMAN MEASLES	HEPATITIS, INFECT.	MEASLES	MENINGITIS, MENINGOCOCCUS	MUMPS	POLIOMYELITIS, PARALYTIC	POLIOMYELITIS, NON-PARALYTIC	ROCKY MT. SPOTTED FEVER	STREP. SORE THROAT INCL. SCARLET FEVER	TYPHOID FEVER	UNDULANT FEVER	WHOOPING COUGH	TUBERCULOSIS, RESPIRATORY	SYPHILIS, PRIMARY AND SECONDARY	GONORRHEA	OTHER DISEASES	DEATHS
																			Influenza and pneumonia
Total, 4 weeks																			
Local areas																			
Baltimore County . . .	39	—	1	—	5	—	84	—	—	—	4	—	—	9	10	—	1	—	7
Anne Arundel	4	—	2	—	8	—	6	—	—	—	3	—	—	—	6	—	5	—	2
Howard	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	t-1	—	—
Harford	—	—	—	—	2	—	1	—	—	—	—	—	—	—	5	—	—	—	—
Carroll	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Frederick	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	—	1	—	1
Washington	1	—	—	—	—	1	—	—	—	—	3	—	—	—	1	—	—	—	1
Allegany	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—
Garrett	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Montgomery	26	—	10	2	63	—	70	—	—	1	53	1	—	4	5	—	—	e-1 m-1	1
Prince George's	17	—	4	—	11	—	17	—	—	—	5	—	—	1	5	—	3	e-1 m-1	2
Calvert	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Charles	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—
Saint Mary's	1	—	3	—	1	—	2	—	—	1	—	—	—	—	—	—	—	—	—
Cecil	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1	—	—	—	2
Kent	8	—	—	—	1	—	2	—	—	—	—	—	—	—	—	—	—	—	—
Queen Anne's	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Caroline	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	e-1	—
Talbot	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—
Dorchester	—	—	—	—	5	—	—	—	—	—	—	—	—	—	1	—	—	—	—
Wicomico	4	—	—	4	28	—	5	—	—	—	11	—	—	—	1	—	2	—	—
Worcester	—	—	—	—	7	—	2	—	—	—	—	—	—	—	—	—	—	—	—
Somerset	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	—	—	—	—
Total Counties	100	0	20	6	131	2	189	0	0	3	79	1	0	15	43	1*	21*	—	21
Baltimore City	100	0	20	1	61	1	84	0	0	0	13	0	0	23	95	13	502	p-4	18
State																			
May 3-30, 1957	200	0	40	7	192	3	273	0	0	3	92	1	0	38	138	14	523	—	39
Same period 1956	817	0	275	3	703	3	397	0	0	2	97	3	0	6	171	22	520	—	38
5-year median	426	0	92	30	580	3	254	1	—	2	120	1	2	30	177	13	615	—	39
Cumulative totals																			
State																			
Year 1957 to date	1685	1	177	66	628	13	1530	0	0	3	644	2	0	119	735	94	2761	—	322
Same period 1956	2119	0	788	55	8570	30	1915	1	0	2	566	6	0	73	928	133	2647	—	379
5-year median	2685	6	417	174	5160	27	1362	5	—	2	1127	7	8	147	925	92	2943	—	369

e = encephalitis, meningo and post chickenpox

m = meningitis, other than meningococcus

p = psittacosis

t = tetanus

* = total includes cases reported by State Hospitals and Institutions

Book Reviews*

Acknowledgment of all books received will be made in this column, and this will be deemed by us as full compensation to those sending them.

Life Stress and Essential Hypertension. Stewart Wolf, M.D., Philippe V. Cardon, Jr., M.D., Edward M. Shepard, M.D., and Harold G. Wolff, M.D. Copyright 1955. The Williams and Wilkins Company, Baltimore, Maryland, publishers. 253 pages. \$7.50.

The purpose of this study is to examine a wide variety of vasomotor and hemodynamic (blood pressure, pulse, electrocardiograph, capillary activity, ballistocardiograph, renal clearance tests) changes in man under "non-stressful" and "stressful" daily environment. Prominent among applied stimuli was the "stressful interview," in which topics of known threatening significance in the subject's life were introduced for discussion, while the above indicators were being recorded. The major emphasis is on patient's demonstrating essential hypertension. By these studies the authors demonstrate and document that vasomotor disturbances involving peripheral vessels are set in motion by a variety of stimuli, including situations or events which have a threatening significance to the individual.

Of particular importance is the sensible and practical approach to the diagnosis and treatment of essential hypertension. Emphasized is the lack of relationship between high blood pressure and the presence or absence of symptoms and the unpredictability of the natural history. Of particular interest is the repeated demonstration that sympathetic blockage (medical or surgical) does not eliminate the pressure response to stress. Their comments dealing with current concepts on pathogenesis and treatment of hypertension are unusually concise and yet representative of all contemporary approaches to the problem of essential hypertension. The bibliography is selective. One gross error appears in Fig. 5 (page 28) which obviously is ventricular tachycardia and not ventricular fibrillation.

This volume should be required reading for those who concern themselves with daily observations of circulatory responses in the human body. Its comprehensive and practical approach to the problem of essential hypertension is a welcome orientation in the current era of

drug therapy. There is an additional bonus of a chapter on Ballistocardiography.

F. J. B.

The Philosophy of Medicine. William R. Laird, M.D. Education Foundation, Inc.

This sixty-four page non-technical medical book presents the philosophical teachings of William R. Laird, Doctor of Medicine, Doctor of Science, Doctor of Literature, etc., and also a noted West Virginia surgeon. The collection of this material was urged by Dr. Laird's friends and associates who had heard his philosophies and observed his actions and reactions. The book is divided into five chapters dealing with logic, esthetics, ethics, politics, and metaphysics. The comments are very appropriate and applicable to the daily experiences encountered in the practice of medicine. The text offers excellent reading, not only to physicians, but to all persons involved in medicine. This book offers excellent basic reading for medical students and to all others who possess an earnest desire to professionally, ethically, and morally improve themselves.

ROGER D. SCOTT, M.D.

The Recurrent Laryngeal Nerves in Thyroid Surgery. William H. Rustad. Charles C. Thomas.

This forty-seven page monograph presents the very limited subject of the extralaryngeal anatomy of the recurrent laryngeal nerves. The anatomical findings from one hundred cadaver dissections (hence two hundred nerves) are presented in a very excellent manner. Eighty-seven drawings showing varied artery, nerve, and thyroid relationships are presented. Each drawing is accompanied by a descriptive text.

Several notable facts are demonstrated from this study. Forty-three per cent of the nerves had divided trunks. There was no consistency of pattern between the right and left sides. To the best knowledge of this reviewer, this monograph represents the most extensive single study performed in this field. Careful study of this material by those performing or contemplating thyroid surgery is highly recommended.

ROGER D. SCOTT, M.D.

*The reviews here published have been prepared by competent authorities and do not represent the opinions of any official bodies unless specifically stated.

Ancillary News

NURSING SECTION

M. RUTH MOUBRAY, R.N., *Executive Secretary,*
Maryland State Nurses Association

Journal Representative

PROFESSIONAL NURSING SCHOOL ADMISSIONS DECLINE IN 1956

(Submitted by the Maryland State
Nurses Association)

The number of new students entering schools of professional nursing dropped last year, while admissions to schools of practical nursing remained steady, according to John H. Hayes, Chairman, Committee on Careers, National League for Nursing, New York.

Schools of professional nursing in the United States and territories last year enrolled 45,839 new students, as against 46,498 the previous year. This was the first year since 1952 that admissions to these schools declined and thus failed to keep pace with the steady growth of the college age population. During this period professional nursing schools annually have attracted about 4% of the girls in this population age group and were expected to enroll 46,700 new students last year.

Admissions to the 22 Maryland schools of professional nursing dropped from 969 in 1955 to 849 in 1956.

Practical nursing programs, which are usually one year nursing courses offered by hospitals, community agencies and vocational schools, admitted some 15,500 new students in the academic year, 1955-56, a number close to the previous year's admissions.

The total enrollment in the 12 schools of practical nursing in Maryland increased slightly, from 276 in 1955 to 285 in 1956.

Mr. Hayes said that the Committee on Careers, which conducts the national promotion program for nursing as a career, is studying the drop in professional school admissions to determine its

significance and the reasons why the upward trend in new students entering the profession, established in recent years, did not hold in 1956. He also advised nursing schools and state and local groups concerned with recruiting students for a nursing career to study their own admission policies, educational programs, scholarship aids and other factors which attract students or deter them from a nursing career.

In only one type of basic nursing education program did 1956 admissions exceed those of the preceding year, Mr. Hayes said, and this was in the college or university program offering a baccalaureate degree. These programs, which are four to five year college programs with a major in nursing, admitted 7,145 new students, compared with 6,985 in 1955. Although this was the smallest increase in admissions to college nursing programs in recent years, it indicates a continuation of the growing interest in college and university education for a nursing career.

This trend is not reflected in Maryland where the admissions to the 4 collegiate schools of nursing dropped from 262 in 1955 to 125 in 1956.

Diploma programs in hospitals and independent schools of nursing dropped from 38,884 new students in 1955 to 38,095 in 1956. The new associate degree nursing programs in junior and community colleges dropped from 629 new students in 1955 to 599 in 1956.

Here again the trend in Maryland differs from the national trend, since the admissions to the 18 hospital schools of nursing increased slightly, from 707 in 1955 to 724 in 1956.

Statistics on admissions and graduations in schools of professional and practical nursing are gathered annually by the Research and Statistical Service of the National League for Nursing.



Woman's Auxiliary Medical and Chirurgical Faculty



MRS. GERALD W. LEVAN, *Auxiliary Editor*

LEGISLATIVE REPORT

SUSAN McDERMID HOPKINS

(Mrs. H. Hanford Hopkins, *Chairman*)

At the beginning of a Legislative report, we ask again, "Why Are We So Interested in Health Legislation?" The answer might be, to quote from a London newspaper, a revised version of the old rhyme:

"Monday's child shall have a wig,
Tuesday's child free milk to swig;
Wednesday's child shall have free classes,
Thursday's child new pair of glasses,
Friday's child free school nutrition,
Saturday's child nurse and physician;
But the child that is born on the Sabbath day
Shall have the taxes all to pay."

During the past year the Social Security law has been extended to include partial and total disability. It has been suggested that the next possible group coverage will be physicians. If this action is to be killed or delayed, it will rest largely on the parties involved. We now have 6 physician members of the 85th Congress. This is good; they need and deserve the help of informed Auxiliary members.

The first of the year each county chairman received information regarding pending and possible future health laws and were urged to use these sources for explanation and implications of these bills. The Medicare Program, now a law, was discussed, as was the duty and privilege of voting stressed.

Since the further extension of Social Security and its Medical reverberations crops up each year, with its untold expenditure of monies, which we will leave to the next generation to pay, the following quoted from a "pay as you go" plan in Government by former Governor Dewey of New York, might be timely:

"Back in the 1860's Borough fathers decreed

a new road for what is now Central Avenue, in the Bronx. It was to be the latest thing—a plank road. The fathers sold bonds for that plank road at 7 per cent interest. The plank road rotted away and Central Avenue had to be paved. It probably has been repaved many times since. But today, decades after the plank road is forgotten, the City of New York is still paying 7 per cent interest on those bonds and will continue to until the bonds mature in year 2147! That plank road originally cost \$390,000. When the last bond is retired, it will have cost the people 3 million dollars."

This is the reason for studying legislation which affects us so closely.

FIFTH ANNUAL CONVENTION FUTURE NURSE CLUBS

MRS. JOHN MILLER

Recruitment Chairman

The Fifth Annual Convention of the Future Nurse Clubs of Maryland will be held on Saturday, May 11, 1957, at Eastern High School, 33rd and Loch Raven Boulevard. The Program Committee has drawn up an excellent program and I am sure that it will be well attended and most enjoyed. All members, delegates and guests are cordially invited to attend.

The guest speaker will be Mrs. Barbara R. Norton, Senior Public Health Nursing Supervisor, Baltimore City Health Department. I'm sure that those of you who have heard her speak before will be looking forward to this address.

A delicious fried chicken luncheon will be catered at 12:00 Noon, with the assistance of members of the Auxiliary. During the afternoon session a teenage fashion show will be given by Dorothy Lovell, Ltd., of Charles Street, with members of the clubs serving as models.

Also on the program will be a parade of student

nurses from the hospitals of Maryland. They will parade down the center of the auditorium, carrying lighted candles and will recite the Florence Nightingale Pledge.

We have reserved a block of twenty-six rooms in

which exhibits will be set up from the different hospitals of Maryland, the Red Cross and Civil Defense. The hospitals will also hold conferences with any interested girls. The convention will close with a tour of the exhibits.

PAN-PACIFIC SURGICAL ASSOCIATION

SEVENTH CONGRESS

Honolulu, Hawaii

November 14-22, 1957

The Seventh Congress of the Pan-Pacific Surgical Association will be held in Honolulu, Hawaii, November 14-22, 1957. All members of the profession are cordially invited to attend and are urged to make arrangements as soon as possible if they wish to be assured of adequate facilities.

An outstanding scientific program by leading surgeons with sessions in all divisions of surgery and related fields promises to be of interest to all doctors.

Further information and brochures may be obtained by writing to Dr. F. J. Pinkerton, Director General of the Pan-Pacific Surgical Association, Room 230 Young Building, Honolulu, Hawaii.